

Our
MODERN BANKING
and
MONETARY SYSTEM

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To
the memory of my
FATHER AND MOTHER

Preface

THIS BOOK IS DESIGNED TO ACCOMPLISH TWO FUNDAMENTAL purposes. First, it describes the nature and operations of our monetary and banking systems. Second, it applies modern monetary and banking theory to present-day domestic and international problems.

Because the field of money and banking has reached such formidable proportions, the one-semester course presents a serious problem of selection. It is hoped that the division of this text into ten parts may be of some aid to the teacher in the selection and use of material needed to accomplish the particular aims of the course. For example, should the purpose of the course be concerned mainly with the mechanics and operations of the money and banking systems, Parts I–IV, plus Part X, might be most suitable. On the other hand, selections from Parts V–IX dealing more with monetary theory and problems might be substituted for chapters dealing more with operational details, should this emphasis be preferred. Finally, the text provides sufficient material for use in a full two-term course sequence, should this be desired.

The first nineteen chapters, Parts I–IV, which describe our money and banking system, are designed to accomplish three things:

First, to provide an understanding of the monetary mechanism. For this purpose descriptions of the various forms of money, bank credit substitutes, and monetary standards that have been in use from time to time are included.

Second, to supply the basic, elementary information needed for an intelligent approach to the banker-customer relationship. Several chapters are devoted to such topics as the meaning of the bank statement, the nature of credit instruments, the nature of bank deposits and their protection, and the process of clearing and collecting checks.

Third, to describe contemporary banking institutions and banking practices. The loan and investment operations of the commercial banks are examined, and the development of the national banking systems and the Federal Reserve System surveyed. Thus a sound basis for understanding current banking events and problems and also a background for the study of the complex questions relating to modern central banking and monetary theory are provided.

Chapters 20-41, Parts V-IX, deal with modern monetary and credit problems. The reader is guided through the recognized theories of money and prices, and emphasis is placed upon their complementary rather than their controversial nature. An attempt is made to harmonize the several approaches and to use them in elucidating the central problem of price level behavior. Considerable space is devoted to the basic question of international price relationships and equilibrium under both international and independent paper currency standards as a basis for understanding present-day developments. Finally, appropriate fiscal and central bank policies are examined, with emphasis upon their contribution to economic stability and full employment.

Chapters 42-44, Part X, deal with concentration among banks, bank failures and their prevention, and the general problem of the adequacy of our banking system to meet the credit and monetary requirements of modern society.

A large part of the material that appears in this book is drawn from the body of common knowledge in the field of money and banking, and its origin cannot be credited to any particular source. However, in some instances material has been quoted and reproduced from other publications. The author gratefully acknowledges his debt to the publishers of such material for their generous permission to reprint it in the present volume.

ROLLIN G. THOMAS

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Part I

Money and Monetary Systems

The Role of Money in Our Economic System

MONEY HAS ALWAYS BEEN RECOGNIZED AS AN ESSENTIAL TOOL IN a specialized economic society. Nevertheless, in the past, economists often relegated it to a secondary place in their discussions. To be sure, money's humble and basic functions, that of providing a standard of value and a medium of exchange, were noted, and economists regularly paid their respects to money's sterling if pedestrian virtues before they moved on to the more absorbing questions of equilibrium price and income distribution. Consequently their concern with money was limited mainly to an examination of the necessary characteristics of good money and the forces operating to determine its purchasing power.

The real significance of money in the modern world. A brief look at the world of today indicates clearly that money can no longer be thought of as the drab, utilitarian handmaiden of economic society. Instead it stands forth as a kind of genie with tremendous, all-pervading powers over economic good and evil. By newspaper and radio we are constantly reminded of monetary problems. Inflation and deflation, currency stabilization and reform demand our attention. One cannot escape some knowledge of the intimate relationship between economic recovery in the postwar world and the "dollar shortage" of Britain and Western Europe. The fate of governments can be seen hanging in the balance as they struggle for a satisfactory solution of their acute monetary questions. Currency devaluation has become a household word, bringing with it a host of questions. Will it aid in remedying the dollar shortage or will it merely lead to further

inflation? How will it affect American business? Will the United States join the movement by further reducing the gold value of the dollar? These questions and many others arising in the postwar world have their roots in the powerful influence of money on the behavior of economic society. Small wonder that money and its problems have become a central theme in economic discussions! Nothing is more evident than the need for a sound knowledge of money if one is to understand the world in which we live.

One may well ask why money and monetary problems play such a vital part and wield such power in the economic affairs of mankind. The answer is found in the dynamic, restless, changing nature of economic society. The rate of economic activity ebbs and flows, old commodities disappear and are replaced by new, a growing population must be absorbed, and new resources and inventions must be exploited. Moreover, the fighting and financing of wars creates both desolation and economic maladjustments. Society's adaptation to these changes involves actions based largely on decisions and calculations made in monetary terms, actions accompanied by and largely accomplished by monetary expenditures. Perhaps the discussion that follows in the next section will help in the understanding of the ways in which money and its use may be related to economic change.

ECONOMIC DISTURBANCES ARISING FROM THE USE OF MONEY

Under a simple barter system, however inconvenient, the exchange of goods for goods would be directly under the control of the specialized producers concerned. Unless a producer is willing to extend credit or make a gift, parting with his goods by barter requires that he take another's goods in return. Only a change in the traders' desires for each other's goods would interfere with the normal exchange process. Under such circumstances one may truly say that goods are exchanged for goods and therefore the production of goods creates a demand for other goods. But this is not the case when money is introduced into the exchange system. When acting as a medium of exchange, money by its very nature must be capable of becoming a storehouse of values which may be drawn upon when need arises. Goods and services are exchanged for money, which in turn may be held until an object of suitable expenditure appears. This in itself need

cause no trouble in the normal process of exchanging goods and services so long as no extraordinary reason appears for postponing the spending process. But at times these extraordinary reasons for holding money do appear, with disturbing results to the functioning of the economic system. For instance, some who receive money income normally devote a substantial part of that income to the purchase of capital goods or claims to capital goods in the form of securities. This is true both of private investors and of corporations which withhold income from stockholders for direct reinvestment in the firm. But let circumstances arise which reduce the apparent desirability of purchasing capital goods out of current income and there may result a drastic reduction in money spent. The same situation exists in the case of durable consumers' goods the purchase of which may be readily postponed. The amount of money income spent for both capital goods and durable consumers' goods may fall off sharply in the face of a decline in profit prospects or a prospective decline in the price level which carries with it the obvious advantage of postponing purchases until lower prices become a reality. The paralyzing effect of such hoarding upon industry and employment is seen in the well-known form of business depression.

The problem raised by the failure of the volume of money to correspond to the needs for it. In yet another way monetary developments may lead to disturbances in the operation of economic society. Monetary systems frequently fail to fit themselves neatly into the monetary job at hand. For example, gold standard countries were constantly exposed to the possibility of a rise or fall in the world price level due to the failure of the gold supply to increase at the appropriate rate corresponding to the growth of monetary requirements. Thus, a lagging gold supply tended to induce long-run falling prices, while an excessive supply of gold promoted rising price levels. The problem of having the "right" supply of money is further complicated by the fact that in monetary systems such as ours the media of exchange consist largely of bank notes and bank deposits subject to check. Such forms of money are at times subject to substantial short-run variations in volume, arising from changes in the willingness and ability of banks to extend credit by expanding loans and investments, and from changes in the desire and ability of businessmen, other individuals, and government agencies to borrow. The price levels of

gold standard countries, therefore, are exposed (1) to long-run variations arising from haphazard fluctuations in the gold supply and (2) along with countries using inconvertible paper, to short-run variations due to the fluctuations in the volume of bank credit money based upon available legal reserves.

Some economic effects of changing price levels. Some of the evil effects of changing price levels have already been indicated in the earlier discussion of the tendency for falling prices to cause a shrinkage in the volume of spending for durable goods. The depressing effect of falling prices upon business activity is accentuated by the stickiness of some production costs (wages, interest payments, and so forth) which encourages businessmen to reduce output whenever possible rather than to continue to operate at lower prices.¹

Rising prices likewise bring disturbances. Profits tend to become excessive when prices are rising and thus create an unreal but glowing sense of prosperity in the minds of businessmen. This optimism occurs largely because of the stickiness of wage and interest costs, which lag behind commodity prices on the upswing as well as on the downswing. The resulting windfall profits enjoyed by business are a temptation to overconfidence. Poor managers, their errors concealed by the profits of rising prices, gain and retain control over a large number of business enterprises and prove a source of difficulty later on when their wholesale failures follow a reversal of the price trend. But even more important, from the standpoint of stable business, is the fact that windfall profits either deceive good businessmen in respect to future prospects, or tempt them beyond their strength of resistance to expand the scale of their operations in order to obtain a lion's share of profits. Thus the competitive spirit, bolstered by the optimism from windfall profits, tends to lead to a rate of expansion of capital equipment greater than that called for by basic economic conditions and greater than can be continuously maintained. The inevitable reversal that follows such an excessive rate of expansion is an important cause of depression. This conclusion must not be taken to mean that money is the root of all cyclical evil in our economic world. But it cannot be denied

¹ This fact is especially true when competition is limited by the use of brands or by the existence of a few large-scale producers in the field.

that monetary phenomena in the form of changing prices not only permit and accompany cyclical disturbances but also to a considerable degree contribute to them. Historically speaking, the growth of recurrent periods of prosperity and depression parallels the growth in importance of the use of money.²

Finally, changes in the price level cause serious shifts in the distribution of income. Rising prices impoverish persons with fixed incomes. At the same time, debtors find their burdens lightened while business profits expand because of "sticky" costs of production. Falling prices, on the other hand, benefit the receivers of fixed incomes, whereas debtors and businessmen tend to be injured.

THE WORK OF MONEY

Before one attacks the complex monetary problems of modern society it is best to arm oneself with a thorough understanding of the fundamental nature of money, its functions, the requirements for the satisfactory performance of these functions, and the general framework of the monetary system, which includes, as an integral part, the banking system. Only after this understanding has been acquired is one equipped with the essential tools for attacking contemporary monetary problems. Therefore, we necessarily must first apply ourselves to the mastery of a good many undramatic details concerned with the nature of our money and banking system. To understand the requirements of good money, one must examine the type of work it is expected to perform. Money work is of several different kinds.

Money as a standard of value. In an exchange society, some standard is needed by which things to be exchanged may be evaluated. The pricing of things in terms of some common denominator can hardly be avoided if accurate and easy comparisons of values are to be made.

In the United States, the standard of value is the dollar, now containing $15\frac{5}{21}$ grains of nine-tenths fine gold. When inconvertible paper currency is in use, the standard for comparing the value of things is the paper dollar. It is evident that money is of maximum use as a standard for comparing values only when its own value is reasonably stable in terms of the general mass of

² Mitchell, Wesley C., *Business Cycles, The Problem and Its Setting*, New York, National Bureau of Economic Research, Inc., 1930, p. 62.

things to be exchanged. We are accustomed to think of the standard units of weights and measures as constant, and properly so. We tend to look upon the standard of value also as constant, but to do so is often a grievous error. Whenever the general level of prices changes, there results a change in the value of money. For example, the 38 per cent fall in average wholesale prices, between 1929 and February 1933, involved a rise in the purchasing power of the dollar of about 60 per cent. Similarly, because wholesale commodity prices rose more than 120 per cent between 1939 and August 1948, the dollar's buying power over such commodities fell about 55 per cent.

Now it frequently happens that money acting as the basic standard of value is not at the same time acting as the medium of exchange. Indeed, the two functions are not at all inseparable. In primitive societies, for example, cattle were sometimes used as a standard of value but were not necessarily used as a medium of exchange. Among some American Indians, the beaver skin was the unit of value and was the basis for fixing the exchange ratio between goods exchanged on a barter basis.³ In the use of modern currencies, too, the standard money unit frequently does not enter directly into exchange transactions. 'This fact is true not only in the barter transactions in which farmers' wives trade eggs for groceries at the local store, and in credit transactions such as those in which the share cropper purchases supplies and later pays in crops, but also in the elaborate clearing transactions on the security exchanges where only a small residual is settled in cash. Moreover, in modern economic society, the standard monetary unit, particularly if gold, is seldom put into actual circulation at all. Instead, more convenient substitutes in the form of paper money and checks on bank deposits furnish the medium of exchange.

Money as the medium of exchange. Acting as a medium of exchange is a second function of money. It is not enough that there be a basis of comparing the value of things to be exchanged. If the troublesome problem of the "double coincidence of wants" is to be avoided, some readily acceptable thing must be available as a go-between to bring about a smooth and effective exchange

³ Cf. Laughlin, J. L., *New Exposition of Money, Credit, and Prices*, Vol. I, University of Chicago Press, 1931, pp. 12-14.

of goods. Some form of money, therefore, must be called into use to act as the intermediary. The media of exchange may include both standard money itself and its various paper and credit substitutes.

A good medium of exchange needs (1) enough stability of value to make it a good store of value; and (2) sufficiently attractive qualities to make it generally accepted by the public. The first requirement, stable value, arises from the need of sellers of goods and services for a means of holding their purchasing power in suspension until such time as they wish to purchase other things. Every income receiver, whether a laborer, a salaried worker, a capitalist, or an active business enterprise, has need for the use of money as a store of value. This need exists because of the impossibility of synchronizing exactly all income and expenditure.⁴ If the economic system is to operate properly, it is necessary that money adequately perform its function as a store of value. This, of course, requires that money shall be sufficiently stable in value to permit its being held without its holder becoming either unjustly enriched or impoverished by the process. If money is gaining in value (prices are falling), hoarding results, with its disturbing effects on production and trade. On the other hand, a falling value of money (rising prices) makes people unduly hasty in getting rid of it. We have all had the experience of spending our money hastily (and perhaps unwisely) to escape rising prices, and of postponing purchases in anticipation of lower prices. An extreme case occurred in Germany in 1923, when money lost its value so rapidly that people receiving cash incomes could not spend their money fast enough to avoid serious losses in buying power. In the end, the currency became so unacceptable that in some instances it lost its character as a medium of exchange, and exchanges were accomplished by resort to the relatively stable foreign currencies or by barter.

Besides reasonably stable value, money must have general acceptability if it is to function as a medium of exchange. Probably it was the latter quality which first commended certain commodities to mankind for use as money.

The importance of money as a medium of exchange involves

⁴ It is impossible to imagine any way in which money could act as a medium of exchange without also being a store of value. Its very existence and use requires that someone hold it, and in the hands of the holders it is a store of value.

much more than conveniently overcoming the awkwardness of barter. The impact of money upon the economic world is vastly greater than this consideration. Money incomes become a primary economic consideration in the lives of men. The public's vast money income, which may be spent first one way and then another to suit the buyers' fancies, enables consumers to record their choices in the market and exert a powerful influence on the character of goods produced and the success or decline of individual firms and industries. Without money, consumers of goods obviously would find shifting from one type of good to another much more difficult, if indeed it would be possible at all to any substantial extent. This fact has a profound effect upon the behavior of our dynamic industrial society. Moreover, not only are incomes and expenditures calculated in terms of money but also most business calculations are reduced to monetary terms.

Money as a store of value. Because of the importance of hoarding and dishoarding of cash as a source of economic instability, it is desirable to give special emphasis to the use of money as a "store of value." We have already seen how changes in the value of money affect its efficiency as a medium of exchange by inducing the public to change the rate of spending money. But the matter is broader than this. Whenever profit prospects decline, businessmen tend to reduce their rate of investment in capital goods, and, in some cases, disinvest by converting inventories into cash. Consequently, a fall in profit prospects from any cause may result in an increased accumulation of abnormally large cash balances, or hoards, in the hands of current savers and businessmen. Thus, the need for money as a "store of value" has risen. This is sometimes described as an increase in the public's "liquidity preferences" (desire for liquid cash assets rather than securities and real goods).

Because of the changes in the public's desire for holding cash, a good monetary system is one that can accommodate itself to these changing demands. Particularly it should be capable of expanding the money supply sufficiently in bad times to meet the increase of needs for cash hoards without drawing the economic life blood out of the economic system. Plans for insuring this benevolent result play a large part in many modern proposals for monetary reform.

Money as the standard of deferred payments. A fourth basic function of money, closely related to the three previously mentioned, is that of acting as a standard or unit of account for contractual credit transactions. Purchases of goods in modern economic society are commonly made with the use of credit, extended either directly by the seller or indirectly by the loan of money. Payment must eventually involve the use of money. To use a common phrase, money is the "standard of deferred payment." Not only credit transactions but all contracts involving future payments are framed in terms of money. Stability of value in terms of other economic goods is also required for the proper fulfillment of this monetary function. In truth, money's function as a standard of deferred payments provides a more exacting demand for stability of value than that arising from its other functions. Short-run stability in the value of money is sufficient to meet the requirements as a medium of exchange and to prevent undue variations in people's willingness to hold money. This requires only an avoidance of sharp and short-run changes in the price level. But to satisfy the requirements of a good standard for credit and contract payments, the value of money must be stable enough over long periods to avoid windfall profits and losses arising from the failure of credit and other contract obligations to adjust quickly to general price changes. Further, it should be sufficiently stable to avoid unjust enrichment and impoverishment of debtors and creditors.

Questions for Study

1. A number of postwar monetary problems which have been headline news have been mentioned. What are they? Can you suggest others?
2. Why does the use of money, instead of barter, increase the danger that buyers for the durable products of industry may not be found?
3. What is the "right" quantity of money for a country to have? Do you think that the use of currencies based on gold provides a good answer? Why?
4. How are windfall profits and losses related to changes in the price level? Why are both objectionable?
5. What is the standard of value in the United States? How stable has it proved to be? Is the standard of value the "dollar" or some particular form of the dollar? Can any or all of the following be

considered examples of our standard of value: a) a silver certificate?
b) a United States note? c) a Federal Reserve note?

6. What qualities does money most urgently need if it is to be a good medium of exchange? Why is its ability to be a good store of value so important?
7. What is the meaning of "liquidity preferences?" When do they tend to increase? How ought the ideal money react to an increase in liquidity preferences?
8. Why does the function of money as a standard of deferred payment require a greater degree of stability of value than its other functions?

2

The Nature of Money

A BRIEF EXAMINATION OF THE ORIGINS OF MONEY WILL HELP ONE understand the nature of modern money systems and the reasons for their development. Modern capitalistic society developed under the benign influence of gold and silver money. But these metals did not acquire their monetary status suddenly or by providential intervention in the economic affairs of mankind. Rather, their use as money came as a gradual development, the roots of which extend back to antiquity.

THE ORIGINS OF MONEY

Because money plays such a vital part in economic processes, it seems certain that some use of money was a prerequisite to the emergence of the modern type of economic society. That it did in fact precede the appearance of modern capitalism is of course well known, for money in various forms goes back many centuries. Adam Smith, in his *Wealth of Nations*, suggested that money originated in the rational effort of man to meet the necessity of finding some medium of exchange. This view probably places undue stress upon the idea of a rational establishment of monetary systems. A more satisfactory view of the origins of money may be obtained by examining the primitive money of both ancient and modern times.

Primitive trade and the use of money. A well-developed money could hardly have preceded the appearance of trade. Some writers suggest that trade, developing upon the foundation of property ownership, first may have taken a unilateral form through the plunderings of conquest and the making of gifts. Resistance to the former and encouragement to the latter may have been the

source of the appearance of bilateral exchange or barter. The desire to trade with foreigners who could furnish strange and unusual commodities must have provided important incentives to barter for peoples living in a simple and largely self-sufficient fashion.¹ Barter required methods of measuring both amounts and values. In addition to counting, units of weight were introduced. The carat, it is said, originated from the kernel of the carob bean, while the English troy grain was derived from the weight of a grain of barley. A primitive way of establishing values was to compare the size of things to be exchanged. Strings of cowrie shells called *dewarra* were exchanged, length for length, with fish. More significant in the development of money, however, was the appearance of standards of comparison in the form of some well-known and valuable thing. In warm or temperate climates, for example, the cow or ox was commonly used as a standard of value. The use of numerous other commodities may be mentioned. In the interior of Africa, the slave was used as a standard, with a value of five oxen, one hundred pieces of cloth, or a double-barrelled gun. A string of glass beads was worth a gourd bottle of water, a measure of milk, or an armful of hay.²

Primitive forms of money. The basic requirement of a medium of exchange is such popular esteem as to provide general acceptability by the trading public. Things in common demand, whether articles of necessity or ornaments, frequently acquired the status of money. In addition to the ox or the cow, people living in colder areas used such articles as furs, skins, and blankets as money. Salt, weapons, and utensils of various sorts were also used. Hoes and knives are said to have been used as money by the Chinese, and later, through the slow process of evolution, miniature copies of these articles, lacking any utility as commodities, circulated as pure money. Primitive fishermen sometimes used fishhooks, which, like the Chinese hoes and knives, gradually lost their original value as commodities and shifted into the category of pure money with only the symbolic shape remaining. The early appearance of ornaments in the role of money is illustrated by the cowrie shells, which from ancient down to modern times have been held in high esteem as money among

¹ Cf. Helfferich, Karl, *Money*, New York, Adelphi Co. (Greenberg), 1927, Vol. I, pp. 3-7.

² Helfferich, *op. cit.*, p. 9.

primitive folk. Of this type was the American Indian's wampum, consisting of belts and necklaces of black and white polished shells. Feathers, heads of red-headed woodpeckers, as well as strings of polished shells, served as money among California Indians. In Iceland, dried fish and in North America, beaver skins, tobacco, and rice were at one time used as media of exchange.³

The use of metals. The precious metals seem to have acquired monetary functions among peoples who knew them almost as early as did other commodities. The "talent," a gold unit weighing about 130 grains troy and worth one ox, is referred to in the Homeric poems of about the eighth century B.C.⁴ Among the less valuable metals copper, silver, and later iron and tin found use as money. The metals were exchanged not only in the form of implements, utensils, and ornaments, but also in bars, wires, cylinders, and balls. Although these metals possessed monetary functions, they were themselves evaluated at first by weight or measure. Gold dust was sometimes measured by the length of a quill container, and weighing was a common method of evaluating it. Sometimes bars or rings of precious metals were marked at regular intervals to facilitate dividing them into smaller units. It was not until relatively late years that coinage was developed as an aid to the identification of the weight and fineness of precious metals. Although there may have been earlier attempts at private coinage by merchants and goldsmiths who stamped their mark upon metals, it is believed that state coinage began in Lydia about 660 B.C.⁵

The superiority of the precious metals. The monetary triumph of the precious metals was due to their superiority in monetary uses. This superiority over other commodities can be readily seen by calling to mind the requirement of a good money. Good money must be relatively stable in value and be generally acceptable. To a very marked degree, the precious metals fulfill these requirements better than other commodities. Since gold, among

³ For more complete accounts of primitive forms of money, see J. Laurence Laughlin's *Money, Credit, and Prices*, Vol. I, and Kemmerer's *Money*, New York, The Macmillan Co., 1936, Chapter I. For the original source of much information given by other writers, see W. Ridgway's *The Origin of Metallic Currency and Weight Standards*, 1892.

⁴ Laughlin, *op. cit.*, p. 19.

⁵ Laughlin, *op. cit.*, pp. 53-54. Chapter II contains a detailed account of the early use of metallic money.

all the metals, became the monetary choice of very nearly the whole world, let us see to what extent it is deserving.

The stability of value of gold. Of all the various commodities that have at one time or another been used as money, gold probably comes the nearest to being stable in value. There are several reasons for this choice. First, its durability has caused the accumulation of a tremendous stock of the metal over the years. As a result, variations in the production of gold over a single year or a short series of years cannot modify the size of the stock of gold enough to cause abrupt and serious changes in its value. This stability is in sharp contrast to commodities that deteriorate rapidly or are completely consumed in short periods of time. The value of such commodities is much more dependent upon short-time changes in production than is the value of gold.

A further reason for the superior stability of the value of gold lies in the nature of its demand for nonmonetary purposes. In industry and the arts, gold is wanted largely for its prestige value and its ornamental uses. Because of this demand, gold is seldom indispensable but, like other luxuries, it enjoys a relatively elastic demand. A decline in the value of gold, as evidenced by a rise in prices of things not made of gold, causes an increased fraction of the world's newly mined gold to be deflected from monetary uses into industry. This tendency for new industrial users of gold to appear readily with a decline in its value helps to prevent any drastic decline in the value of gold in the face of increased output. Similarly, a decline in gold output and a rise in the value of gold is somewhat offset by a decline in the industrial uses.⁶

Still a third stabilizing influence upon the value of gold is found in the hoarding practices in the Orient. Like industrial uses, gold absorption by Oriental hoards tends to fluctuate inversely with changes in the value of gold.⁷

A fourth force is found in the response of gold production to changes in the value of gold. In this respect, of course, gold is no different from other commodities. When the price level rises, the costs of mining gold rise also. With no change in the dollar value of newly mined gold, rising costs reduce the profits from

⁶ For evidence in regard to the fluctuations in industrial uses of gold, see Lionel D. Edie's *Money, Bank Credit and Prices*, New York, Harper & Bros., 1928, pp. 256-257.

⁷ Cf. Edie, *op. cit.*, p. 259.

mining and shut off production in marginal mines. Falling prices, on the other hand, stimulate gold output.

It must be recognized, however, that gold has limitations as well as advantages. Its supply is subject to the hazards of accidental discovery of sources of gold and to the effects of irregular and uncertain improvements in the technique of mining and refining. Moreover, although durability does give a substantial degree of stability to the short-run gold supply, the long-run effects of new discoveries and new techniques may be far from negligible. One must also not lose sight of the fact that the long-run stability of the value of gold is dependent on the relation of the supply of monetary gold to the world's monetary needs. These needs, in turn, depend both upon the growing volume of transactions requiring settlement in terms of money and upon the volume of bank money substitutes for standard gold money that may be available.

The general acceptability of gold money. Public acceptance of any money depends upon a number of considerations. Stability of value is, of course, one of these considerations, because great instability renders money incapable of functioning properly as a store of value. A relatively high value in a small compass is a convenience that adds to the attractiveness of gold money. Yet another favorable characteristic of gold is the ease with which it may be minted into coin and reconverted into bullion form again. Uniformity of quality, ease of identification, and durability are all qualities of gold that enhance its usefulness as money. Finally, one must not neglect the importance of social custom. Certain commodities may acquire a kind of momentum in monetary use that helps to perpetuate such use. The fact that gold has been the customary monetary standard is to a large measure responsible for the esteem that it commands as money. The effect of this can be seen in the refusal of countries that had technically been on the bimetallic standard to continue on that standard when, after a long period during which gold was exclusively in circulation, cheap silver threatened to drive gold from circulation. Today, gold retains its monetary value largely because of its customary acceptance as money rather than because of its value for industrial uses.

In these days of paper money and bank credit substitutes for gold, some of the characteristics mentioned as contributing to the

acceptability of gold have lost much of their significance. These substitutes have all the qualities of convenience in handling and use that can be claimed for gold itself, and are in fact superior to gold for domestic use. Even when inconvertible into gold, paper money may remain readily acceptable in the issuing country because it may possess legal tender power and because of habit of use.

COINAGE OF MONEY

The advent of coinage marked a very important step in the development of money, for with it money achieved a distinctive place among other goods. When made into the form of coin, money ceased to be merely a convenient commodity for comparing and storing values. The coin itself, bearing the stamp or mark of the State that issued it, came to be the important thing rather than the bullion content. This admiration for the coin itself frequently goes so far that the coin may circulate at a value considerably in excess of its bullion value. The fact that it is money, approved by the State and in customary use, is sufficient to maintain its acceptance at face value within its own country.

Free coinage. In the past, free coinage of the standard monetary metal was a normal characteristic of currency systems. Under free coinage, the money metal or metals may be brought to the mints and converted into standard coins without limit. In the United States before 1933, one could bring to the mint standard gold bullion (nine-tenths fine) and have it converted into coin without expense save the delay involved in the process. If gold in other than standard bullion form was presented to the mint, a *brassage* charge was made to cover the expense of converting the metal into standard bullion.⁸ Sometimes the State charges more than the actual cost of minting the coins. As a result the State makes a profit called *seigniorage*. The coins so minted have a face value somewhat above their bullion value. The free coinage of standard metals is normally accompanied by the right to exchange coin for bullion or the right to convert coin into bullion by melting. It follows, therefore, that the coin value and the value of the bullion content of coins can never be separated by more than the cost of conversion from one form to the other. It

⁸ The term *brassage* is used to describe any mint charge not designed to yield a profit to the State.

is through the free interconvertibility of coin and bullion that the value of money is tied up with the value of the metal itself.

Limited coinage. Although standard money metal may be freely coined, other metals may be converted into coins only at the option of the State. For example, subsidiary silver coins; silver dollars, and token five- and one-cent pieces are coined by the Treasury in such amounts as public convenience or public policy seem to warrant. Since there is no privilege of free coinage in such a case, these coins are the result of what is known as "limited coinage." Such coins normally bear a heavy seigniorage charge, or to put it another way, their face value is considerably greater than the value of the metal they contain. For example, when silver bullion is worth \$.73 per ounce, the silver dollar contains approximately 56 cents worth of silver. Coins issued under the limited coinage principle, therefore, derive their value from the fact that they are directly or indirectly convertible into standard money. In reality they are a form of promissory note written on metal discs instead of being engraved on paper.

Free conversion without free coinage. After World War I, countries wishing to return to the gold standard economized their limited supply by abandoning the coinage of gold. Instead, they provided that bullion might be freely converted into currency or bank credits by sale to the central bank. Those wishing gold bullion for export or industrial purposes could purchase it at a fixed price from the central bank. In this way gold coin was not allowed in common circulation, yet free conversion from money into bullion and bullion into money was provided. Though technically different from free coinage, the result was similar in that the value of paper currency and the equivalent amount of bullion were always substantially the same.

INCONVERTIBLE PAPER MONEY

In the past, standard money has normally consisted of some form of metal. Although both gold and silver were often standard money metals, the modern practice steadily moved in the direction of gold alone. Standard money, however, need not necessarily be metal at all, but sometimes may be inconvertible paper currency.

The inauguration of the use of inconvertible paper money in a country is generally accompanied by a promise of the issuer,

whether the State or a note-issuing bank, that the paper will some day be redeemed in standard metal money. This fact has led some observers to conclude that inconvertible paper money derives its acceptability and its value from the expectation of redemption in standard metal at some future date. According to this view, the value of pure paper money must fluctuate in direct proportion to changes in the possibility of future redemption. This view also denies that pure paper money, in itself, can have value independent of its theoretical metal worth. This explanation of the value of inconvertible paper money was understandable at a time when the metallic standard was the rule and inconvertible paper the exception, to be eliminated as soon as possible. But today, in the light of modern monetary experiences with pure paper currencies, it is difficult to hold that pure paper money can have no value in and of itself.

One may say, therefore, that inconvertible paper money sometimes may achieve the distinction of being "standard" or the "last word" in a country's monetary system. Its acceptability is derived not only from habit of use developed before conversion privileges were abandoned, but also from legislative fiat or legal tender qualities. Sometimes a sheer lack of any available substitute currency plays its part in compelling people to use inconvertible paper.

Two basic types of inconvertible paper money. Inconvertible paper money may take two forms:⁹

1. Governments have frequently been forced to meet their necessary expenditures by the issue of paper promises to pay metal money. The occasion for such issues has most frequently been war, when needed expenditures tend to outstrip tax income. Direct resort to the printing press by hard-pressed governments has not been unknown in American history. The Revolutionary War was the occasion for paper money issues (bills of credit) by both the individual colonies and the Continental Congress. The outbreak of the Civil War was the signal for the issue of inconvertible greenbacks.

⁹ Many excellent accounts of historical experience with inconvertible paper are available. For compact, competent summaries of the work in this field, see J. Laurence Laughlin's *Money, Credit, and Prices*, Vol. II, Chapters III-XI, and Edwin W. Kemmerer's *Money*, Chapters X-XIII. W. C. Mitchell's familiar *History of the Greenbacks*, 1903, is an authoritative work on the experiences with the United States notes.

2. Both in the past and in modern times, inconvertible paper money, with most if not all of the attributes of standard money, has originated in the form of bank notes. In England, 1797-1821, the currency mainly consisted of inconvertible Bank of England notes, whereas today in practically all countries of the world (with the possible exception of the U. S.) standard money consists of inconvertible promises of the central banks.

CONTEMPORARY MONEY: STANDARD MONEY AND
OTHER GOVERNMENT ISSUES

The definition of money. Although we have examined the characteristics and functions of money and some of the problems associated with its use, we have avoided any attempt to define it. Definitions are generally troublesome things, and that of money is no exception. Sometimes money is defined as something generally acceptable to sellers in the market and in payment of debts. But because the various monetary functions are so often divided among the different classes or types of money, an all-inclusive definition is of limited use. Therefore a frank recognition of these several classes of money and a series of workable definitions that fit the actual monetary situation may be preferable.

Standard money. As the term is used today, *standard money* is the monetary unit recognized by the State as the ultimate basic standard of value. Direct or indirect convertibility into standard money assures a uniform value to other forms of money. Historically, standard money is a commodity, normally gold or silver or both. From 1792 until 1873, both gold and silver dollars were standard money in the United States. Except for the greenback period and part of 1933, the gold dollar has been our standard monetary unit since 1873. Standard money need not necessarily be gold or silver, however; nor does it need any commodity value. Numerous examples exist of standard money without commodity value. As was mentioned earlier, government notes (greenbacks) were issued during the Civil War. They promptly became inconvertible and remained so until 1879. Since greenbacks, constituting the money in general circulation, could not be converted into gold dollars, it followed that this inconvertible paper money was the standard money of the period. Today the British pound is really nothing but the inconvertible Bank of England note. Similarly, other foreign currencies are in fact inconvertible paper.

In 1933, when the United States Government formally removed the right to convert any form of currency into gold, paper money became the standard. When the gold content of the dollar was reduced from 25.8 grains of nine-tenths fine gold to $15\frac{5}{21}$ grains by Presidential proclamation¹⁰ on January 31, 1934, a conversion of paper currency into gold was partially restored, since the privilege of buying gold at \$35 per fine ounce was granted for industrial purposes and for export, at the option of the Secretary of the Treasury.

The standard money that appeared after January 31, 1934, was unlike the old standard gold dollar. The new departure was referred to by the Secretary of the Treasury as a "streamlined dollar." Its size in terms of gold was not fixed by law but was subject to change by Presidential proclamation. In actual fact, however, it was fixed at 59.06 per cent of the old (1933) dollar's gold content, which provided the convenient price of \$35 per ounce for fine gold bullion. Because the President's power to make further changes in the gold content of the dollar expired on June 30, 1943, the dollar will remain unchanged in the future unless Congress passes legislation to the contrary.¹¹

This variation in the standard monetary unit, in respect to both its gold content and its vacillation between convertibility into monetary metal and inconvertibility, provides an illustration of the distinction between the monetary unit that is the standard, in terms of which debts and contracts are settled, and the money itself with which actual payment is made. For example, the dollar is the monetary unit in terms of which are stated various sorts of economic obligations. The satisfaction of these obligations requires the payment of dollars. But the particular *thing* that constitutes the *dollar* is subject to change.¹² Thus, the dollar as

¹⁰ Under the authority granted by Congress in the Thomas Amendment to the Agricultural Adjustment Act of 1933, as amended by the Gold Reserve Act of 1934.

¹¹ Section 15, of the Gold Reserve Act of 1934, states that "Whenever reference is made in this act to equivalents as between dollars or currency of the United States and gold, one dollar or one dollar face amount of any currency of the United States equals such a number of grains of gold, nine tenths fine, as . . . are contained in the standard unit of value, that is, . . . such a number of grains of gold, nine tenths fine, as the President shall have fixed. . . ."

¹² J. M. Keynes distinguished between money as a "unit of account" and money that may be used in making payments. He likened this distinction to that between the King of England, a continuous institution, and the particular ruler on the throne at any given time. The latter is subject to change at the will of the State, but the former enjoys continuity of existence. See his *Treatise on Money*, New York, Harcourt, Brace & Co., 1930, Vol. I, p. 4.

a unit for expressing economic obligations remains unchanged, whereas the particular standard money in which payment may be made is subject to change at the will of the Government. Standard money, therefore, is the ultimate means of payment for obligations expressed in terms of the unit of account.

The relation of the State to standard money. Standard money in the modern sense requires the sanction of the State. This sanction normally would carry with it legal tender power. But when the standard money is uncoined gold bullion, as it often is in modern monetary systems, it has little need to be made legal tender. Rather, legal tender powers are conferred upon paper currencies, with the standard acting as the ultimate redemption unit for all the currencies of lesser status. When the ultimately obtainable currency is itself inconvertible paper, the distinction between legal tender currency and standard money is wiped out, since for all practical purposes any legal tender currency is standard. In modern society the sanction of the State is often a very powerful force in making standard money acceptable. So important is this sanction that some persons hold to the view that money derives its value from the State's stamp of approval.

Representative money. Under the old gold standard, which permitted individuals to obtain gold coins, the standard gold pieces frequently were in actual circulation. The small size and ease of abrasion of gold coins, however, discouraged their circulation. Before 1933, gold certificates, claim checks to gold held by the Treasury, commonly circulated in place of gold coin. Gold certificates are, therefore, called *representative money*, for they stand in the place of the standard gold. Today it has become the practice to use other forms of currency for actual payments, leaving gold certificates in the Federal Reserve Banks to act as reserve or the ultimate redemption basis for nonstandard money.

Other government issues. Not only does the government regulate and control the issuing of standard money of a country but also it normally issues other types of money that do not qualify as standard. Government notes in currency form, redeemable in standard money, are sometimes issued. Our greenbacks are examples of such currency. Also, governments frequently purchase and coin silver and other metals, and the resulting coins, although not standard, are part of the money supply.

CONTEMPORARY FORMS OF MONEY: BANK MONEY

The major part of our media of exchange consists not of currency issued by the government but of *bank notes* and *bank checking accounts*. Such note and deposit currency may be designated *bank money* to differentiate it from money issued by the government.

Central bank credit as money. Bank money falls into two classes: (1) the notes and deposits of the central banks (in our case the Federal Reserve Banks); and (2) checking accounts of commercial banks. All modern countries now have central banks that enjoy the privilege of note issue and hold deposits of commercial banks. These deposits are looked upon as "cash reserves" by the commercial banks and are freely transferred among the banks in payment of debts owed to each other. Furthermore, these deposits in the central bank may be drawn out in cash (central bank notes), to meet the customers' changing demands for currency. Commercial banks quite rightly look upon the notes and deposits of the central bank as acceptable "money." Such central bank obligations, therefore, comprise what might be called *secondary* or immediate standard money, since all obligations of commercial banks to each other and to the general public may in practice be liquidated by the payment of central bank notes or deposits and need not involve the use of the *ultimate* standard itself. The central bank, in turn, holds the gold certificates that represent the standard gold money as a reserve or basis for the support of its note and deposit liabilities.

Commercial bank credit money. Commercial banks today have little if any note-issuing power. Nevertheless, by making loans and investments, they can create a large volume of bank money in the form of *demand deposits subject to check*, based upon a relatively small volume of cash reserves. These cash reserves, as we have just observed, are mainly in the form of central bank obligations. Commercial bank money, then, consists of checking accounts; and borrowers receive the proceeds of their loans in this form of promises to pay currency, rather than in currency itself. So long as banks command public confidence, their promises are readily acceptable and are actually superior to currency in respect to convenience in transfer and freedom from theft. Most commercial transactions are settled by the payment of such bank

money, which therefore may be said to be our principal medium of exchange.

Time deposits. Some question may be raised as to the propriety of including time deposits in the category of money. Time deposits hardly qualify as media of exchange, since they are not subject to check and are not transferred from one person to another without first being converted into demand deposit or cash form. But in one sense they may be said to perform the function of money. They provide their owners with a means of storing up values in what is essentially liquid form. In this respect they differ but little from savings bonds and other securities that may be readily converted into cash.

Effective money. We may define *effective money* as that part of the total supply of money and credit which may actually be used in making money payments. Effective money includes, therefore, (1) any standard money in actual circulation; (2) notes of central banks that are in circulation outside the banks; (3) checking accounts; and (4) other government money issues in actual circulation, including subsidiary silver and other token money.

THE MONETARY STRUCTURE OF THE UNITED STATES

Like that of other countries, the present form of our monetary system is the result of a more or less haphazard historical growth. In it one may find reminders of nearly every monetary experience since the Civil War. This is not to say, however, that our monetary structure has never been made the subject of careful study and planning. National bank notes were designed to meet problems presented by a chaotic state bank currency. Federal Reserve notes, in turn, were created after serious study of the difficulties that arose in connection with the use of national bank notes. On the other hand, other parts of our money system arose out of expediency and political compromise. The greenbacks issued during the Civil War and the silver dollars and silver certificates issued in response to political pressure of the silver interests well illustrate the haphazard origin of our heterogeneous currency.

Monetary gold. The stock of monetary gold that forms the base upon which our money system stands is in the possession of and belongs to the United States Treasury. Technically it includes all of the gold bullion held by the Treasury as backing for

gold certificates (or equivalent claims) belonging to the Federal Reserve Banks, plus the small amount of gold held as reserves against the outstanding United States notes (greenbacks) and Treasury notes of 1890. This stock of gold bullion constitutes the bulk of the monetary gold within the country. But there are inside the country two important classes of monetary gold that cannot properly be considered a part of the monetary gold base. First, some gold is often held under "earmark" for foreign central banks or governments, and therefore does not constitute a part of our monetary gold supply. Second, the Treasury holds free gold against which gold certificates have not been issued and which is not set aside as reserve for other paper money. This gold, amounting to over \$1,000,000,000 in 1949, is a part of the general funds of the Treasury and has been accumulated in a number of ways. Some accrues out of current gold purchases paid for out of existing Treasury funds. Later, such gold is normally used as a basis for the issue of gold certificates and thus eventually becomes incorporated into the monetary system. Most of the free gold arose originally as profit that the Treasury derived from devaluing the dollar in 1934. Most of this profit was at first placed in the Stabilization Fund. Now it represents gold remaining after the gold in the Stabilization Fund was transferred to the general fund of the Treasury and part of it used to pay the gold subscription of the United States to the International Monetary Fund.

Gold coin may no longer be minted in the United States; consequently the gold is held by the Treasury in bullion form. Against this bullion the Treasury issues gold certificates, which are deposited in the Federal Reserve Banks and provide the funds against which the Treasury may draw to pay for the gold purchased by it.

Other government money issues. The peculiar manner in which our monetary system developed has resulted in the appearance of a number of different types of nonstandard government-issued money. These include (1) greenbacks or United States notes, and a very small amount of Treasury notes of 1890; (2) silver dollars; (3) silver certificates; and (4) subsidiary silver, nickels, and one-cent pieces. Such money is for the most part outside of the Federal Reserve Banks and is an important part of the money in circulation.

Notes and deposits of the Federal Reserve Banks. As we saw earlier, the notes and deposits of central banks constitute a kind of "secondary standard money" for other banks and the general public. Banks settle claims among themselves by transferring deposits in the central banks, and the notes of the central banks are accepted by the general public as the ultimate form of currency. The liabilities of the Federal Reserve Banks are no exception, for Federal Reserve notes make up the bulk of the money in circulation, and their deposits provide the media for settling claims among the commercial banks.

The "effective money" supply of the United States. As was said earlier, the various media of exchange actually available for use in making settlements or payments in business and financial transactions of all kinds become the "effective money" supply. The largest single type of effective money consists of bank deposits subject to check. The bulk of the total business transactions in the United States is settled by the drawing of checks on such deposits. Other forms of effective money include: (1) Federal Reserve notes; (2) silver dollars and silver certificates; (3) greenbacks; and (4) token money, including subsidiary silver. In addition, there are some national bank notes and Federal Reserve Bank notes which are in the process of retirement.

Types and amounts of money in the United States. One may better realize the nature of our monetary system by examining the classification of money, which appears in Table 1. It must be remembered, of course, that the particular amounts given are useful primarily to illustrate the relative proportions of different types of money since the amounts themselves are subject to change.

TABLE 1

MONEY OF THE UNITED STATES
as of Nov. 30, 1949

Standard Money and Other Government Money Issues

1. Held by the Treasury:	
(a) Gold not held to secure gold certificates	\$1,205,000,000
(b) Other Treasury cash	59,000,000
2. Held by the Federal Reserve Banks:	
(a) Gold certificates on hand and due from the United States Treasury	23,231,000,000
(b) Other Treasury currency	237,000,000
3. In circulation:	
(a) Gold certificates	42,000,000

(b) Silver certificates	2,115,000,000
(c) Silver dollars	167,000,000
(d) Greenbacks or U.S. notes	317,000,000
(e) Subsidiary silver and minor coin	1,317,000,000

Secondary Standard Money (Federal Reserve
Bank liabilities)

1. Member banks reserve accounts	\$16,038,000,000
2. Federal Reserve notes	23,373,000,000

Effective Money (available for use of the public)

1. Currency in circulation:	
(a) Gold certificates	42,000,000
(b) Silver dollars	167,000,000
(c) Silver certificates	2,115,000,000
(d) Subsidiary silver coin	956,000,000
(e) Minor coin	361,000,000
(f) United States notes (greenbacks)	317,000,000
(g) Federal Reserve notes	23,202,000,000
(h) Federal Reserve Bank notes	293,000,000
(i) National bank notes	90,000,000

Total currency and coin in circulation	\$27,543,000,000
Less currency and coin held by banks	2,443,000,000

Net amount in actual circulation *	\$25,100,000,000
2. Deposit currency, adjusted demand deposits **	\$85,500,000,000

* The figures for currency in circulation are exaggerated somewhat because some has disappeared from circulation through export, destruction, and the accumulations of collectors.

** Adjusted demand deposits include all demand deposits other than interbank and Federal government deposits, less cash items in process of collection.

Questions for Study

1. What does our knowledge of primitive money tell us about:
 - a) The manner in which money came into use?
 - b) The importance of commodity usefulness?
 - c) The emergence of pure money forms having little value as commodities?
2. Why were the precious metals, especially gold, used as money? Can you name 4 characteristics of gold which made it particularly well adapted to this role?
3. What is "free coinage"? What, if any, is its present equivalent in the United States? How would you describe the coinage of silver dollars?
4. What are the two origins of inconvertible paper money?

5. What is our standard money? Are the following properly considered standard money: a) Silver certificates? b) U.S. notes? c) Federal Reserve notes? d) Standard gold bullion weighing $15\frac{5}{16}$ grains?
6. What connection is there between a) the value of standard money and the value of paper money substitutes? b) the value of U.S. notes and silver certificates?
7. Was the standard monetary unit of the United States changed in 1934 when the gold content of the dollar was reduced?
8. Central banks are sometimes described as "bankers' banks." How does this apply to central bank credit money? Why can central bank credit be described as "secondary standard money?"
9. What is commercial bank credit money? Why exclude time deposits from this category? To what extent do time deposits have monetary characteristics?
10. What is "effective money?" Which of the following can be included in the effective money supply of the United States?
 - a) Gold held by the Treasury.
 - b) Silver certificates in circulation.
 - c) Till money of banks.
 - d) Adjusted demand deposits.
 - e) Bank deposits in the Federal Reserve Banks.

3

Monetary Standards

A COUNTRY'S MONETARY STANDARD IS ADOPTED BY THE AUTHORITY of the State as a measure of value. The monetary standard, therefore, is synonymous with standard money, which we have already studied. A country's monetary system consists of its supply of standard money plus all of the paper and credit substitutes tied to and convertible into standard money. Involved in the operation and maintenance of the monetary system is the whole government mechanism established to regulate the creation of money and the banking system responsible for the issue of bank notes and the creation of checking account money.

THE MEANING OF MONETARY STANDARDS

It is customary to describe the monetary system of a country in terms of its standard money. Thus, when the standard monetary unit is gold, the country is said to have a *gold standard system*, or more simply is said to be "on the gold standard." If the standard monetary unit is defined in terms of both gold and silver, the system is one of *bimetallism*. When a country's currency is not redeemable in either gold or silver, it is said to have an *inconvertible paper money system* or a nominal currency.

Importance of the type of monetary system. The nature of a country's money system has a double significance. First, there is the question of its suitability for domestic requirements. Monetary systems are basically national in nature, since they are established and maintained by the governments of each country. There is no prerogative of sovereignty more jealously guarded than that of regulating the monetary system. It is to be expected, therefore, that monetary systems of all countries tend to be gov-

erned by internal needs. Yet, because countries must also be concerned about trade with other nations, the international aspects of currency management cannot be disregarded. A suitable monetary system must therefore satisfy both domestic requirements and the necessities of international trade. One of the great merits of the gold standard has been its capacity to provide a money having international acceptance and value.

EARLY MONETARY STANDARDS

The development of monetary systems providing standard coins of uniform value was the result of long and trying experience. Early attempts at coinage often resulted in the appearance of a number of separate, independent types of money, each with its own subdivisions. This situation resulted from the assimilation of the coins and coinage practices of neighboring trading states, from irregular minting, and from abrasion and clipping.¹ Gradually it became possible for central governments, by preventing debasement, to bring different coins of the same metal into a fixed relation to each other. But even this improvement left a parallel standard of two independent currencies, one of silver and the other of gold. With price calculations and debts made in either of the two currencies, the situation left much to be desired. A standard, uniform currency was still lacking.

BIMETALLISM

The next step in the development of currencies was to devise a system in which standard coins of a given value might be minted out of both gold and silver. In this way not only would gold and silver coins circulate side by side, but they would also be interchangeable. Thus, a debt calling for the payment of a given number of dollars could be discharged by the payment of either silver or gold. Both metals were given the right of free and unlimited coinage into standard monetary units. Such a system was called *bimetallism*.

But certain difficulties always tended to arise under bimetallism. Its adoption required a decision as to the appropriate weight that should be given to each type of coin. Since both were to have the same nominal value and each was to be freely coined, it

¹ A detailed account of the chaotic condition of early currencies can be found in Helfferich, Karl, *Money*, New York, Adelphi Co. (Greenberg), 1927, Vol. I, pp. 34-50.

was necessary that the relative size of coins of the two metals bear a close relationship to their relative value as bullion. The mint ratio was the relative quantities of the two metals required at the mint to make a standard monetary unit. Thus, a mint ratio of 16:1 meant that the silver dollar required an amount of silver 16 times the amount of gold in the gold dollar, and was chosen because it was thought to correspond to the relative bullion values of the two metals. But new discoveries of the metals caused marked disturbances in the relative values. When silver discoveries reduced the bullion value of silver, the silver dollar no longer contained as much bullion value as did the gold dollar. On the other hand, when gold discoveries reduced the value of gold as compared to silver, the bullion value of the gold dollar became less than that of the silver dollar. Such a situation invited the action of "Gresham's Law" and led to the displacement of the dearer metal by the cheaper metal in the monetary system of the country. A similar disturbing result occurred when other bimetallic countries had mint ratios that differed from those of the country concerned. These foreign mint ratios affected the domestic "market" ratio.

Gresham's Law. In its simple form, the monetary principle known as "Gresham's Law" is this: "Bad or overvalued money tends to drive out of circulation good or undervalued money." A fuller and somewhat more correct statement is that, given a sufficient supply of bad or overvalued standard money with the characteristic of general acceptability, the good or undervalued standard money may be displaced by the lighter or overvalued money. Bad money or overvalued money is that which contains less bullion value for a stated face value than the good or undervalued money.²

Under bimetallism, Gresham's Law begins to operate whenever the market ratio of silver to gold shifts away from the mint ratio. For example, if the mint ratio and the market ratio were both 16:1, both gold and silver coins would circulate. But if silver production should expand enough to make silver cheaper than

² Sir Thomas Gresham is said to have used this principle in explaining to Queen Elizabeth why the new fullweight coins did not remain in circulation in the face of old, underweight, clipped coin. For a statement of the origin of the use of Gresham's name in connection with this long-known principle, see Laughlin, J. L., *New Exposition of Money, Credit, and Prices*, University of Chicago Press, 1931, Vol. I, pp. 51-52.

before, as compared to gold, so that the market ratio changed to 17:1, it would become profitable to convert gold coin into bullion and to exchange it in the market for silver at 17:1. Out of the seventeen parts of silver thus obtained, sixteen parts could be made into silver coins to replace the gold coins melted, and one part silver would be left as a profit on the transaction. So long as the market ratio remained sufficiently different from the mint ratio to make such a profit possible, the process of displacing gold coins with silver would continue. If the shift in relative silver and gold values represented a world-wide change, the gold coins of an individual country acting alone on the bimetallic standard would almost certainly be displaced by silver without causing a corrective change in the market ratio. If increased gold output lowered the relative value of gold as compared to silver so that the market ratio became 15:1, the reverse of what we have just described would occur. Gold, being the cheaper money, would displace the dearer silver coins, which would be melted up and sold as bullion.

Experience has shown that it is difficult for a single country to maintain its mint ratio equal to the market ratio. The latter fluctuates with changes in production and in the nonmonetary demand, whereas mint ratios, once established, are unlikely to be changed with any frequency. Attempts to establish and maintain bimetallism, therefore, have generally resulted in an alternating standard, with first one and then the other of the two metals making up the currency.

Claims made for bimetallism. Because bimetallism developed naturally out of the need for gold and silver currency of a uniform value, little reason arose to justify its original appearance. After its abandonment,³ however, repeated efforts were made to re-establish bimetallism. Such efforts were supported vigorously by its advocates with appropriate arguments.

Efforts to restore bimetallism coincided with periods of economic depression and falling value of silver. The reasons are

³ England closed its mints to the free coinage of silver in 1798 although the gold standard was not established by statute until 1816. The United States was on the bimetallic standard from 1792 until 1873. The Latin Monetary Union, composed of Italy, Belgium, France, and Switzerland maintained bimetallism until 1878. Cf. Hawtrey, R. G., *Currency and Credit*, New York, Longmans, Green, 1928, Chapter XVI. Also see Laughlin, J. L., *History of Bimetallism in the United States*, 1888, pp. 146-160.

easy to understand. First, if cheap silver bullion could be converted into standard coin at the old statutory price, silver producers would obviously benefit. Second, the agrarian debtor groups, especially hard hit by falling prices characteristic of depressions, desired the free coinage of silver in the belief that it would result in an expanded quantity of money and higher prices. Support for bimetallism sometimes arose from quite a different quarter. When silver became cheaper the value of silver standard currencies (of which there were a few) also became cheaper in terms of gold standard currencies. Persons interested in exporting to those countries found that a cheapening of silver increased their difficulties, and therefore they supported a return to bimetallism.

Besides the support, obviously partisan, of the groups that felt their interests were directly involved, bimetallism found theoretical support of a more sophisticated kind. It was argued that the operation of Gresham's Law introduced a "compensatory action." Whenever one metal became cheaper, its flow into the monetary system would raise its bullion value. At the same time, the expulsion of the dearer metal would reduce its bullion value. Two beneficial consequences might therefore be expected: (1) The two metals would in fact both remain in circulation, although in varying proportions; (2) the aggregate stock of money would tend to be more stable than one comprised of a single metal. It was agreed that these benefits would be realized only if bimetallism were established on a wide scale—preferably on an international basis.

Although bimetallism has been officially dead for many years, the impact of its past still is felt in modern monetary discussions. In our own bimetallic history, the silver dollar was too valuable as bullion to remain in circulation between 1834 and 1873. Yet, no sooner was the free coinage of silver abolished in 1873 than pressure arose for the restoration of bimetallism. The reasons lay in the severe depression and the accompanying drop in the bullion value of silver. Consequently, although bimetallism was defeated, the attempt led to the adoption of (1) the Bland-Allison Act of 1878; and (2) its successor, the Sherman Silver Purchase Act of 1890. These Acts required the United States Treasury to make certain monthly purchases of silver for coinage into silver dollars.⁴ Between 1878 and 1893, when finally repealed, these

⁴ For a careful account of the operation and the effects of the silver purchase acts, see Laughlin's *Money, Credit, and Prices*, Vol. I, pp. 244-256.

laws were responsible for the purchase of 459 million fine ounces, which were converted into \$576,000,000. This "limited" coinage of silver, therefore, may properly be looked on as a consequence of our bimetallic background that caused silver to be firmly established in the minds of many as an appropriate monetary metal. As we shall see in the next chapter, a closely analagous situation arose in the depression of the 1930's.

THE GOLD STANDARD

In contrast to bimetallism, which involves the free coinage of two standard money metals—silver and gold—the gold standard provides only for the use of gold as the basic money metal. Thus, under the gold standard, the standard monetary unit is a given fixed quantity of gold. Paper money and bank credit substitutes for the standard money are maintained at par by being convertible into gold. Free coinage of gold, in its broader sense, is a necessary characteristic of the gold standard. This means that gold bullion can readily be converted into standard money, and conversely, that standard money can be converted into gold bullion.

The essential characteristics of the gold standard include:

1. The unlimited right to convert gold bullion into money.
2. The right to convert money, both currency and coin, into gold bullion for industrial uses.
3. The right to export gold for conversion into foreign currencies.

The gold coin standard. Several modifications of the gold standard were introduced after World War I. These modifications may best be visualized by beginning with a description of the old-fashioned type of gold standard, which, for purposes of contrast, may be called the *gold coin standard*.

Under the gold coin standard, gold coins of a certain weight and fineness are the standard monetary units. Thus, the gold dollar containing 25.8 grains of nine-tenths fine gold was the standard monetary unit of the United States prior to January 31, 1934. Standard gold bullion (.900 fine) could be brought to the mint in unlimited quantities and be converted without charge into coin. At the same time, the mint would receive gold coin in lots of \$5,000 or more and give out gold bars in exchange.⁵ The

⁵ The gold dollar itself was not coined after 1890, except in limited amounts for commemorative purposes. Because of its small size, the gold dollar was in-

British sovereign or pound sterling contained 123.27447 grains of gold eleven-twelfths fine.⁶ Before World War I, the French franc contained 4.97806 grains of gold nine-tenths fine. Under the gold coin standard, other forms of currency were convertible into standard gold coins that anyone was privileged to hoard, spend, export, or melt, as he saw fit.

The right of free coinage entitled any holder of gold bullion to have it coined into standard coins without any quantitative limit. This process involved some cost, since a little time normally elapsed between the bringing of the metal to the mint and the receipt of standard coins. Moreover, the mint frequently added a special charge to cover the expense of minting. In some instances, charges were in excess of the actual minting costs, with a resulting profit to the mint called *seigniorage*. In such a case, the face value of the coin exceeded its bullion value.

The gold coin standard, therefore, provided for the unlimited conversion of bullion into standard gold coin, the conversion of gold coin into bullion, and the right of private citizens to convert other currencies into gold, and export or use either gold coin or bullion without restrictions save those against mutilation.

The gold bullion standard. A change in form of the gold standard appeared with the English postwar gold bullion standard. From May, 1925, when England re-established the gold standard, until it was forced off again in September, 1931, the Bank of England redeemed its notes, not in gold coin, but in gold bullion in amounts of not less than 400 ounces. Instead of free coinage, there existed the right to convert gold bullion into Bank of England notes. No restriction was placed upon the right of private citizens to hold or use gold bullion. It might be hoarded, used in the arts, or exported. The only essential difference between the gold bullion standard and the gold coin standard is

convenient and was superseded by the silver dollar and silver certificate. The most common gold coin was the double-eagle or \$20 piece. In addition, there were the eagle or \$10 piece, the half-eagle or \$5 piece, and the quarter-eagle or \$2.50 piece. Coinage of the \$2.50 piece was discontinued in 1930. *Annual Report of the Director of the Mint*, 1932, p. 87.

⁶ The Bank of England sold gold (eleven-twelfths fine) at the statutory price of £3 17s. 10½d. per ounce. The English mint would coin, without charge, one ounce troy of gold bullion into £3 17s. 10½d. For the convenience of holders, the Bank of England bought gold bullion at £3 17s. 9d. per ounce (under the act of 1844). The difference of 1½d. between this and the price at the mint represented an interest charge for the advance by the Bank. Cf. Laughlin, *Money, Credit, and Prices*, Vol. I, p. 80.

that the former provides no gold coin for hand-to-hand circulation. Since a substantial volume of gold was in circulation before 1914, the gold bullion standard resulted in some economy in the monetary use of gold. The bank notes that replaced coin in circulation were not backed by a full 100 per cent gold reserve. France, like England, adopted the gold bullion standard when it resumed gold payments in 1928. The bullion feature was optional with the Bank of France, which could convert its notes into either bullion or coin as it chose.

The limited gold bullion standard. The United States has been operating under a somewhat different type of gold bullion standard since the passage of the Gold Reserve Act of 1934. All gold coins were withdrawn from circulation and melted into bars, and the coinage of gold for domestic uses is no longer permitted. Instead, the Treasury will purchase gold bars, from licensees, at a fixed price of \$35 per fine ounce minus a handling charge of $\frac{1}{4}$ of one per cent and a small charge for assaying and testing. In return, the seller gets Treasury drafts payable in some form of bank credit. In this way gold bullion can be converted into deposit currency. Special licensees may buy gold for industrial uses at \$35 per fine ounce plus $\frac{1}{4}$ of one per cent for handling charges. Currency may therefore be converted into gold for industrial purposes, but the ordinary citizen is denied the privilege of obtaining and keeping bullion. This deviation from the British form of gold bullion standard arose out of the gold-hoarding regulations of 1933, when it was feared that hoarding of gold, even in bullion form, might prove embarrassing to our monetary system. Under the present arrangements, neither the ordinary citizen nor bankers may obtain gold for export. Instead, the task of maintaining the value of the dollar in terms of other currencies by the export of gold has been taken over by the Treasury.⁷

⁷ On April 5, 1933, the President issued an Executive Order forbidding the hoarding of gold coin or bullion or gold certificates. This order was followed on December 28, 1933, by an order of the Secretary of the Treasury under the authority of the Emergency Banking Act of March 9, 1933, requiring the transfer to the Treasury of all gold coin, bullion, or gold certificates, with a few unimportant exceptions. The Gold Reserve Act of 1934 empowered the Secretary of the Treasury to set the conditions under which gold may be acquired, held, transported, melted or treated, imported, exported, or earmarked.

Between February 1, 1934, and October 1936, the Treasury sold gold to bankers for export to foreign central banks whenever the foreign exchange rates rose to the gold export point. On October 13, 1936, the Treasury announced that it would sell gold for export to foreign countries or would earmark gold for the ac-

This last type of limited gold bullion standard resembles but slightly the original gold coin standard. Nevertheless, it retains two essential features of any gold standard: (1) conversion of bullion into currency and bank credit; and (2) conversion of currency and bank credit into bullion for industrial uses and for export. The uncertain manner in which such a standard operates under the regulations of the United States Treasury does not invalidate the assertion that such a standard meets the basic requirements for the use of gold as a monetary base.

The place of silver in gold standard countries. In spite of the almost universal adoption of gold in the modern world, silver retained an important role in most monetary systems. Its use under bimetallism was carried over to the gold standard systems, where it was commonly used as token money for hand-to-hand circulation. In the United States, the subsidiary silver coins and the silver dollars (and silver certificates) constitute an important part of the money in circulation.

Advantages of the gold standard. The gold standard is said to have two main advantages over inconvertible paper currency. First, gold is more stable in value; second, as an international standard, it provides stable foreign exchange rates.

The claim that gold money is more stable in value than paper rests primarily upon the natural limits to the available supply. Moreover, its durability is such that a very large part of gold mined in past years remains in existence, so that annual changes in output have but little short-run effect upon the aggregate supply. Therefore, not only is gold scarce, but also its supply remains relatively stable. This stability in turn is reflected in a relatively stable value. In contrast, inconvertible paper money is exposed to overissue at the whim of the government. It is well known that the path to a balanced budget is sometimes thorny and easily abandoned in favor of the smoother path of paper money

count of the stabilization funds of these countries if they, in turn, would sell gold to the United States. On November 24 of the same year, it announced its willingness to sell gold to treasuries or to any fiscal agent of treasuries offering to sell gold to the United States in return. Such sales were to be made through the Federal Reserve Bank of New York. Under these regulations the Treasury agreed to export gold to Great Britain, France, Belgium, the Netherlands, and Switzerland. It was clearly stated, however, that the agreement to export gold might be revoked upon 24 hours' notice. The sale price of gold, corresponding to the gold content of the dollar as fixed by the President's proclamation on January 31, 1934, was \$35 per fine ounce plus handling charges of $\frac{1}{4}$ of one per cent.

expansion. The gold standard, rigorously adhered to, closes the door to paper money inflation. Like the redemption of commercial bank liabilities in standard money, the redemption of a nation's currency in gold compels a quantitative restraint which will keep the issue "in step" with the outside world; for any excessive volume of currency will induce an unfavorable balance of indebtedness, a loss of gold, and a retreat to a more tenable position. The argument that gold is more stable than paper is weakened by the fact that, however great its virtues, the gold standard seldom is allowed to impose much restraint upon governmental fiscal practices when the going becomes rough. At the same time, the behavior of inconvertible paper during periods of wartime inflation is no proof that it could not prove even more stable than gold once it were tried under normal conditions.

The second advantage claimed for the gold standard is derived from the fact that between countries it provides exchange rates that are determined by the relative gold contents of their respective currencies. Before the devaluation of the dollar in 1934, the mint par exchange rate between the dollar and the British pound was \$4.8666 per £1. This meant merely that \$4.8666 contained as much gold as did one pound sterling. When pounds could be converted into exportable gold, pound drafts or bills of exchange drawn upon London banks or on other debtors need never be sold in New York for less than \$4.8666 per pound, minus the cost of converting them into gold and shipping the gold back to New York. On the other hand, \$4.8666 could be converted into gold, and the gold shipped to London and sold for a pound. Therefore, Americans wishing to remit funds to London need never pay more for pound drafts than \$4.8666 plus the cost of shipping gold to London. Under the international gold standard, foreign exchange rates cannot deviate from mint par by more than the cost of exporting or importing gold. These maximum and minimum prices of foreign bills of exchange are known as the *gold points*. This relative fixity of foreign exchange rates under the gold standard is of no small importance. It protects traders from the hazard of wide fluctuations in the exchanges during the period between the time of the sale and the receipt of the proceeds. In addition, it encourages long-term foreign investment, and such investments played an important part in the economic development of the nineteenth century.

Difficulties arising under the gold standard. The successful operation of the international gold standard requires that each country's balance of payments be maintained in substantial equilibrium. This calls for adjustment of the price levels of the several countries to the point where imports and exports (visible and invisible) are in approximate balance. In such a case, settlements between countries require only small gold shipments. So long as these gold movements are small and temporary in nature, no serious impairment in the gold reserves of any country's banking system will occur and the gold standard will work admirably. But there are times when a country's balance of payments becomes so violently disturbed that a sustained and intolerable drain of gold is experienced and the gold standard is abandoned. To operate successfully, therefore, the gold standard must be free from too violent and sudden changes in the transactions that make up the debit or credit side of the balance of payments. Moreover, it is important that a re-establishment of equilibrium in the balance of payments be easily and quickly achieved whenever disequilibrium appears. In order that this may be so, the price levels of the several countries must be flexible and readily responsive to a gain or loss of gold. Any development that increases the inflexibility of prices will therefore make the successful functioning of the gold standard more difficult. A more complete examination of the manner in which the gold standard operates and the weaknesses which it exhibits will be made in Chapters 30, 31, and 37.

THE GOLD EXCHANGE STANDARD

The principle of the gold exchange standard is a simple one. In its more formal types, it was designed to permit silver standard countries to enjoy the advantage of having their currencies so tied to the international gold standard as to provide fixed rates of exchange while retaining the traditional or customary silver currency for domestic use. Without some device for maintaining fixed exchange rates on gold standard countries, silver-using countries were in the awkward position of seeing the value of their currencies in terms of gold currencies fluctuate with the changes in the gold value of silver bullion on the world's bullion markets. This fluctuation was unimportant so long as international bimetallism, even on a limited scale, helped to maintain a fairly stable

ratio between the market value of the two metals. It became more acute during the last quarter of the nineteenth century, when silver began to drop sharply in value. A shift to a complete gold standard by such countries would have been both unduly expensive and in conflict with the monetary habits of the people. The gold exchange standard was the answer to the problem.

For convenience, the gold exchange standard systems may be divided into two classes. The first, typified by the original Philippine system, was automatic or nearly automatic in its operation under established rules. The second, represented by the European systems of the 1920's, was the managed type operated under the discretionary control of central banks.

The Philippine gold exchange standard. The automatic type of gold exchange standard may be easily understood by examining the system organized for the Philippine Islands⁸ in 1903. The uncoined gold peso, worth fifty cents in United States currency, was made the standard monetary unit. Local currency consisted of the silver peso, made light enough to insure against melting, and Philippine Treasury certificates redeemable in silver pesos.

To maintain the parity of the silver peso with the theoretical gold peso (\$.50), the Philippine Government maintained a Gold Standard Fund, part of which was held in Manila and part deposited in a New York bank. The Insular Treasurer was required to sell drafts on the gold standard fund in New York at the rate of two pesos to one dollar. The New York depository bank in turn was required to sell drafts on the Philippine Treasury Fund in Manila at the same rates.

Philippine importers obtained foreign exchange by offering pesos to the Insular Treasurer for the purchase of drafts on the New York fund. Philippine imports, therefore, caused both a decline in the New York fund drawn against and a shrinkage of Philippine domestic currency in circulation. Philippine exporters, on the other hand, offered foreign exchange drafts for sale to the Insular Treasurer in exchange for pesos. Exports, therefore, tended both to replenish the fund in New York and expand the circulation of domestic currency. So long as exports and imports

⁸ For a complete account of the Philippine gold exchange standard, see E. W. Kemmerer's authoritative work, *Modern Currency Reforms*, New York, The Macmillan Company, 1916, Chapters V-IX.

were equal in value, the domestic circulation and the New York fund remained unchanged. When exports were in excess of imports, more pesos flowed out of the Treasury fund into the Philippine monetary system, tending to raise the level of internal prices and to restore equality of imports and exports. In case the Manila fund became exhausted by excessive exports, more silver could be bought out of the increased New York fund and coined into pesos, or Treasury certificates could be issued against the New York funds. On the other hand an excess of imports caused a decrease in the volume of circulating currency. This in turn tended to reduce the internal price structure, reduce imports, and stimulate exports. Thus the system tended to work automatically under the established rules. Only when the government made the mistake of depositing part of the Manila fund in the Manila banks, and thus failed to withhold from circulation the pesos paid in by importers, did trouble arise.⁹

When the dollar was devalued in 1934, the Philippine gold peso was abandoned and the peso was made redeemable only in \$.50 worth of New York exchange. It thus formally became a "dollar exchange" rather than a gold exchange standard.¹⁰

After World War II, the Philippine monetary system was modified by the abandonment of the old regulations designed to tie the peso automatically to the United States dollar. A new central bank was established with the duty of maintaining the external value of the peso ¹¹ at \$.50. The present system is the managed or discretionary type, which we shall examine a little later. It has the merit of relieving the domestic economy of the Philippines from the shock of severe currency shrinkage resulting from temporary and irregular variations in the country's balance of payments.

Other countries before 1914 made use of the gold exchange standard. The most important example was India, which through administrative order, adopted a *de facto* gold exchange standard.¹² The Indian currency, consisting of small coins, silver

⁹ *Hearings Before the Committee on Banking and Currency, U. S. Senate*, S3486, "Philippine Currency Reserves," February 27 and March 5, 1936.

¹⁰ This change was accomplished by legal enactment on March 16, 1935.

¹¹ Cf. "The Philippine Central Bank Act," *Federal Reserve Bulletin*, August 1948.

¹² The Indian mints were closed to the free coinage of silver in 1893. After 1898, the Calcutta government sold sterling drafts for rupees at 15²⁹/₃₂d. per rupee and sold rupee drafts in London at not over 16³/₄d. per rupee. Because of the

rupees, and government issued notes, was convertible into sterling drafts drawn on London.

Managed gold exchange standards of the 1920's. As a step in the re-establishment of a world gold standard after World War I, the gold exchange standard was adopted by a number of countries. One marked difference existed between the systems developed during the 1920's and the old Philippine type. The latter was designed to operate automatically to maintain an equality between imports and exports. In contrast, the systems established in the 1920's were adjuncts of the central banks of the respective countries and were under central bank management and control. Therefore, an excess of exports, which tended to add to the currency reserves of the country, could be offset by credit restriction by the central bank. Similarly, an excess of imports, which tended to reduce the currency reserves of the banks, did not necessarily force a monetary shrinkage if the central bank chose to offset the loss of cash by an expansion of its own credit. It was necessary, therefore, that the central banks watch the size of their foreign reserve funds and adapt their credit policy to the protection of these reserves. An undue fall in foreign exchange reserves called for a restrictive credit policy and internal deflation, whereas expanding foreign exchange reserves permitted some relaxation of domestic credit.

Reasons for the gold exchange standards of the 1920's. Two serious problems confronted the countries that wished to return to the gold standard during the 1920's. First, there was the question of what gold parity should be undertaken. Second, there was the problem of accumulating a sufficient supply of gold to enable them to fulfill their promises of redemption of their currencies at the gold parity agreed upon. The first question was directly related to the whole problem of equilibrium exchange rates, which will be examined in a later chapter. A partial answer to the second question was sought by some countries in the adoption of a form of the gold exchange standard.

The gold exchange standard has several advantages. Because it

great demand for Indian exports during World War I, the price of rupee drafts and the silver comprising the rupee rose to over 22d. and India was in effect on a free silver standard again. After 1924 the exchange value of the rupee was maintained at 18d., and when England abandoned gold in 1931 the rupee became a sterling exchange standard. See *Report of the Royal Commission on Indian Currency and Finance*, 1926, Vol. I, p. 1.

involves the use of some form of token money for circulation, gold need not be accumulated for that purpose. In this respect the gold exchange standard resembles the gold bullion standard. Further, the resumption of gold sometimes required the borrowing of substantial sums in the more powerful money centers of the world. To withdraw these borrowed funds so that they might be held as gold reserves of the borrowing country's banking system would deplete somewhat the gold reserves of the lending countries. But if the proceeds of these loans were left on deposit in the banking system of the lender, the loan could be obtained on more favorable terms. Finally, reserve funds held abroad frequently earned interest, whether in the form of deposits in banks or in the form of investments in bankers' acceptances and other liquid securities. An important feature of the postwar gold exchange standards was the right of the central banks, in most instances, to redeem their notes in *either* gold or foreign exchange.¹³ In satisfying legal reserve requirements, they were allowed to count funds held in gold standard countries.

The postwar development of the gold exchange standard was expected to aid materially in economizing gold. To be sure, earmarking of gold abroad provided no double use of gold and therefore no economy. But to count as central bank reserves funds deposited in foreign banks or invested in foreign money markets does afford some gold economy. In this connection, three possibilities are presented. First, reserve funds may be deposited in foreign central banks. In this case, the amount of gold tied up in the depositary bank depends upon the legal or customary reserve ratios maintained by it against its deposits. Theoretically, a dollar deposited in the Federal Reserve Bank of New York would require 25 cents in cash reserve, but in fact the reserve bank normally carries reserves against deposits that are substantially greater than the 25 per cent required by law. In any event, less gold is tied up as reserve against the deposits of foreign central banks than would have been lost if the gold had been taken abroad and held in the vaults of the foreign bank. Second, foreign banks'

¹³ In cases where central banks were given the option of redeeming notes in gold or foreign exchange, the system was not a pure gold exchange standard. The central banks of Danzig and Estonia were required to redeem their notes exclusively in foreign exchange. Mlynarski, F., *The Functioning of the Gold Standard*, League of Nations, 1931, pp. 8-9.

reserves may be deposited in big commercial banks. Clearly, the economy in gold is considerably greater when such funds are deposited in a New York City commercial bank than when they are deposited in the Federal Reserve Bank of New York. For gold reserves behind member bank deposits are correspondingly smaller than those behind the deposits in the reserve banks. Third, if reserve funds of foreign central banks are invested in acceptances and other short-term securities found in the money markets of the depositary country, no gold reserves whatever are involved.

Objections to the gold exchange standard. The gold exchange standard has certain objectionable features that must be mentioned. (1) Because a depositary country, holding reserves of foreign central banks, may not lose gold in the face of an excess of imports, the decline in its price level needed to reduce imports and stimulate exports and thus restore equilibrium in the balance of payments may be unduly postponed. (2) The widespread use of the gold exchange standard encouraged the accumulation of large amounts of foreign owned short-term funds in the depositary countries. The existence of these funds exposes the monetary and banking systems of the depositary countries to the hazard of entirely unpredictable gold drains. Any loss of confidence in the safety of foreign-held reserves will precipitate their withdrawal. The experiences of 1931-1932, when different money markets of the world were in turn subject to extremely heavy pressure of this sort, give abundant proof of the damaging nature of such withdrawals. It was just such a movement that forced England to abandon the gold standard in September 1931, and it was only by virtue of its very large gold reserves that the United States was able to withstand similar pressure in 1932. Of course, it must not be taken for granted that the whole blame for the existence of highly dangerous short-term balances rests upon the gold exchange standard. Speculation in foreign exchange and the search for security from currency depreciation caused the appearance of a large volume of such funds.

A third objection to the gold exchange standard is the danger that a suspension of gold payments by the country in which reserve balances are deposited might cause serious losses to the foreign central banks owning such deposits. This risk is well illustrated by the sharp losses suffered by the Bank of France on its London balances when England suspended gold payments in 1931. Ex-

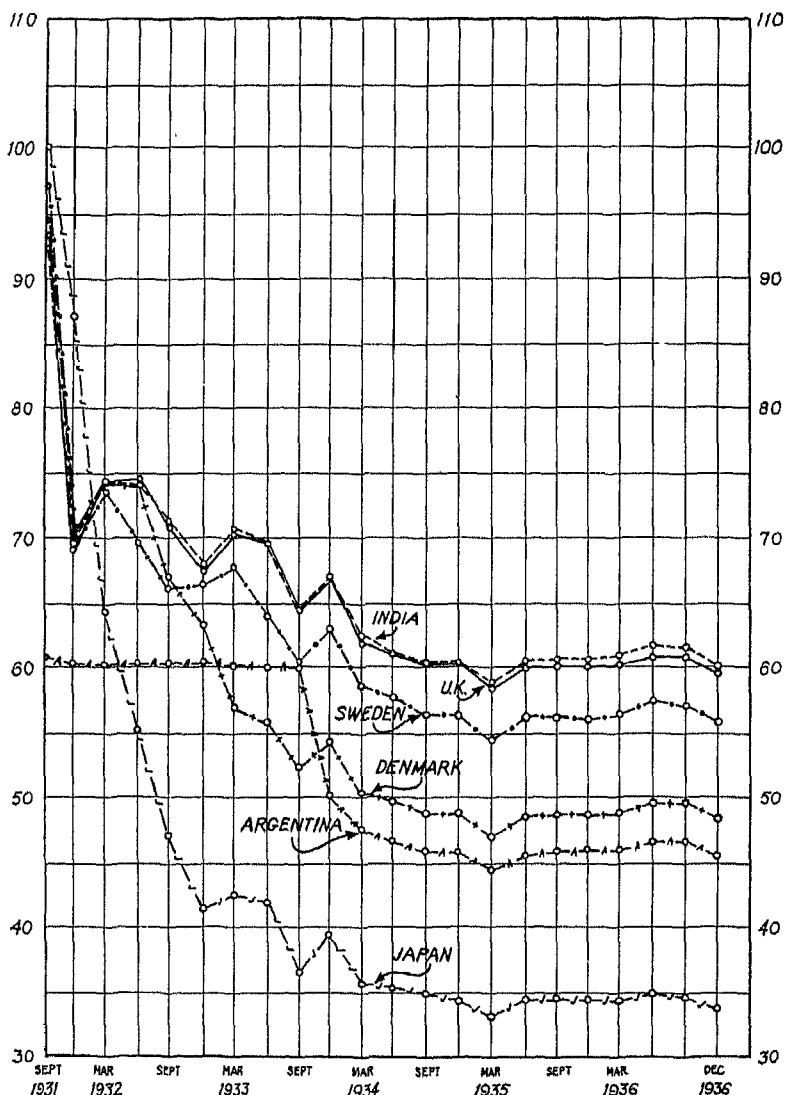


CHART 1. DEVIATION OF EXCHANGE RATES OF REPRESENTATIVE STERLING-AREA COUNTRIES AWAY FROM GOLD PARITIES OF 1929. 1929 Gold Parity = 100.
Source: League of Nations, *Monetary Review*, 1937, pp. 112-113.

periences since 1929 will increase the reluctance of central banks to carry reserves in the form of deposits in foreign banks.¹⁴

¹⁴ For a discussion of the good and bad features of the gold exchange standard, see the League of Nations, *Selected Documents Submitted to the Gold Delegation*, 1930, "Reform of the Gold Exchange Standard," by Dr. Feliks Mlynarski.

Paper money exchange standards. When England abandoned the gold standard in 1931, a number of other countries having close commercial ties with her took similar action. Because of their trade relations with England, they soon found it advantageous to maintain a fairly fixed exchange ratio between their own currencies and the pound sterling. They elected, therefore, to tie their currencies to the depreciated paper pound rather than to try to cling to the gold standard. The central banks of these countries maintained reserves in the form of London balances. The procedure was almost identical with that under the postwar gold exchange standard, except that their currency was maintained at a fixed relation with and was convertible into paper pounds instead of a gold standard currency. Further, unlike the gold exchange standard, the parities maintained with sterling were not rigidly fixed but were allowed to shift somewhat as national interest seemed to dictate. England and the countries that tied their currencies to the pound were popularly known as the *sterling area*. Chart 1 shows the relation of the currencies of some of these countries to the pound. It clearly shows that the tie-up with sterling was at best a loose one. In general, countries not under British control allowed their currencies to depreciate somewhat more than did the pound before beginning their stabilizing efforts. Moreover, if it later seemed desirable, still further depreciation was permitted.¹⁵ This arrangement should not be confused with the wartime system of exchange control and trade agreements referred to as the *sterling bloc* and the postwar sterling area arrangements.

MANAGED PAPER STANDARDS

Many unkind things have been said about inconvertible or *fiat* paper currency. This is hardly surprising when we remember the circumstances surrounding most of the world's experiences with such standards. One need only recall the French assignats, the Continental currency of our own Revolutionary War, the Civil War greenbacks, and modern postwar monetary experiences to

¹⁵ For more detailed information as to the actual rates of exchange between the pound and other sterling-area currencies, see the League of Nations, *Monetary Review*, 1936-37, 1937, pp. 19-22. Thirteen countries were listed as being in the sterling area. They were: Sweden, Finland, Denmark, Norway, New Zealand, Portugal, Japan, South Africa, Siam, India, Australia, Estonia, and Argentina.

understand the skeptical attitude toward paper money. To the average person, it is synonymous with uncontrolled and uncontrollable price inflation, with all its connotations. But to no small degree this unsavory reputation is the result of an association with difficult and troublous times. In a world wedded to the ideal of a gold or other metallic standard, inconvertible paper was often used only as a last resort when economic and political circumstances were so distorted as to make adherence to metallic standards untenable. Thus, inconvertible paper money has inherited a reputation in economic thinking that is by no means entirely deserved. But the favorable experience of England and the sterling-area countries after 1931 has helped dispel a great deal of suspicion formerly held by conservative persons.

Today as never before, statesmen and economists are seriously pondering the possibilities of providing their individual countries with a money mechanism more satisfactory than gold. Many have come to believe that inconvertible paper under normal circumstances and intelligent control might provide greater stability of prices and business activity than is provided by gold, which at best is only a fair-weather standard.

There are two distinct differences between the various monetary standards we have been considering and a pure paper or fiat currency standard. First, the pure paper currency, having no direct tie-up, through redemption, to gold or silver, is in no way confined by the natural limits in the quantity of those metals. The only restraint, therefore, on the issue of the pure paper currency is the conscience of the issuing government. Should the government start to follow the primrose path of inflation, it would be undeterred by the limitations on monetary expansion imposed by a grim necessity of maintaining convertibility into gold. Second, pure paper currency is strictly nationalistic in form. Unlike gold standard currencies, it cannot be converted into gold for export to foreign countries. Hence its value in terms of foreign currencies is uncertain and unstable. In other words, foreign exchange rates are no longer tied automatically to the relative gold contents of the respective currencies, but instead are free to shift about in response to changes in supply and demand.

The advantages of pure paper standards. The primary advantage claimed for the pure paper standard is its susceptibility to management. Management of the gold standard is limited by

the necessity of keeping the price level in its proper relation to prices in the rest of the world. No such limitation applies to the attempts to manage pure paper currency, for equilibrium in trade relations with foreign countries is achieved simply by allowing the exchange rates to change appropriately. With a pure paper currency, therefore, the monetary authority might pursue a policy of price stabilization or control best calculated to promote full employment and business stability. Outside price movements, both cyclical and secular, might then be completely disregarded. Further, the use of a pure paper currency frees the country from the distressing deflationary effects of heavy gold drains, which become cumulative in times of severe world-wide depressions.

Objections to pure paper currency. The most serious objection to the use of managed paper currency is the certainty that it would lead to exchange instability whenever external prices moved more than domestic managed prices were permitted to move. Exchange instability is a serious defect. It invites speculation and therefore requires exchange controls to counteract the speculator who would otherwise magnify the normal fluctuations. This means that some agency—either the central bank or a government operated stabilization fund—will have to be prepared to buy and sell foreign exchange at rates that permit normal trade with foreign countries. Only in this way can undue fluctuations arising from seasonal and speculative factors be avoided. Without a reasonable degree of short-run exchange stability, foreign traders are embarrassed. Moreover, the uncertainty as to the rates of exchange increases the hazards of long-term international lending. Along with the positive weaknesses of the pure paper standards, one must not neglect the fact that many of the advantages claimed for managed paper currency are not at all certain of realization. It is by no means certain that either our instruments of monetary control or our standards of monetary policy will prove successful in our attempts to ward off economic instability and unemployment.

We are not yet ready to study the detailed workings of the International Monetary Fund established under the Bretton Woods Agreements. But it is worth noting that the Fund allows the use of either gold standard or inconvertible paper currencies by the member countries. At the same time, it introduces an effective

means of providing basic short-run stability of exchange rates among them.

Questions for Study

1. A country's monetary standard must be judged by its suitability both for domestic use and international trade. Why is this so?
2. Can you explain why Gresham's Law came into operation so often under bimetallism?
3. What theoretical arguments have been raised in favor of bimetallism?
4. Historically, what has been the source of the support for the substitute of bimetallism for the gold standard?
5. How is bimetallism related to the presence of silver certificates and silver dollars in our currency?
6. What minimum requirements should be fulfilled if a country is to be said to be on the gold standard? To what degree does the United States system qualify? Do you agree with those who argue that a genuine gold standard must provide the right for citizens to hold gold coin?
7. Distinguish between the reasons for the adoption of the gold bullion standard by England in 1925 and those behind the present system in the United States.
8. Examine carefully the merits of gold as the basis of a) the currency of a single country like the United States and b) the currencies of all of the important trading countries.
9. In order for a world gold standard to be workable and tolerable, disturbances in trade and price levels must be held to small proportions. Explain why.
10. Before World War II why was the Philippine gold exchange standard automatic in its operation? How did the introduction of the managed type since the war change this? What benefits and what risks attend the managed type which are absent in the automatic type?
11. Can you explain the reasons for the adoption of the gold exchange standard (managed type) by various European countries in the 1920's? What weaknesses appeared?
12. Chart 1 shows the existence of the sterling area of the 1930's. How did it compare with the gold exchange standard systems of the 1920's?
13. Why are managed paper currencies so often looked upon with suspicion? What advantages may be claimed for them?

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The United States Monetary System Since 1933

DURING THE BITTER DAYS OF BANK AND BUSINESS FAILURE, PRICE deflation, and economic distress preceding the bank holiday of March 6, 1933, the United States clung steadfastly to the gold standard. The lukewarm recovery efforts of the Hoover administration, such as open-market security purchases, rediscount rate reductions by the Federal Reserve Banks, and some assistance to embarrassed financial institutions, had failed dismally in the face of continued bank runs and bank failures. The New Deal Administration assumed office March 4, pledged to take effective measures to relieve the depression and restore prosperity. It is not surprising, therefore, that a good deal of experimentation and change occurred. Some of this left permanent imprints on the American monetary system. Some of the changes have been severely criticized, especially by conservative banking and monetary students. We cannot, at this time, examine the extensive arguments for and against what was done in the attempt to promote recovery and re-establish confidence in the banking system. A discussion of the economic effects of such changes as the devaluation of the dollar must wait until our study of exchange depreciation, which will come later. At this point we can only take note of the changes that took place and the immediate reasons offered for making them.

As is likely to happen in periods of change, a good many inconsistencies found their way into the monetary laws and the monetary structure. Perhaps, in time, a general over-all reform or our

monetary and banking legislation will remove these inconsistencies. In the meantime, they remain to confuse and annoy students who wish logic and order in their thinking.

NEW DEAL EMERGENCY MEASURES

The antihoarding regulations of March 6, 1933. As a part of the proclamation relative to the bank holiday, banks were prohibited to pay out, export, earmark, or permit the withdrawal or transfer in any manner or by any device whatsoever of gold or silver coin, bullion, or currency, or take any other action that might facilitate hoarding. In addition, banks were not permitted to carry on any foreign exchange transactions.¹ On March 10, when the Secretary of the Treasury was authorized to permit the reopening of banks, banks were not allowed to pay out gold or gold certificates except under authorization of the Secretary of the Treasury, nor were they allowed to pay out any currency for hoarding. The export of gold was permitted only under license issued by the Secretary of the Treasury, and foreign exchange transactions were limited to normal nonspeculative purposes.

Although these regulations prohibited banks from paying out money for hoarding purposes, it was not until April 5 that hoarding of gold and gold and silver certificates was directly placed under a ban. The Executive Order of that date required that all gold coin, gold bullion, and gold certificates be delivered to the Federal Reserve Banks, either directly or through member banks. The only exceptions to this order were (1) gold required for "legitimate and customary use in industry, profession or art within a reasonable time"; (2) gold coin and gold certificates in amounts of not over \$100 belonging to any one person,² and gold coins having a recognized special value to collectors of rare and unusual coins; (3) gold coins and bullion earmarked or held in trust for a foreign government, foreign central bank, or the Bank of International Settlements; (4) gold coin and bullion licensed for other proper transactions, including gold coin and bullion imported for re-export or held pending action on applications for export li-

¹ This proclamation was made under the authority of a wartime act of October 6, 1917. The Emergency Banking Act of March 9, 1933, confirmed and extended the President's authority during the emergency.

² This privilege was revoked by order of the Secretary of the Treasury, December 28, 1933.

censes. Under the same Executive Order, any person becoming the owner of any gold coin, gold bullion, or gold certificates after April 28, 1933, was required within three days to deliver such to the Federal Reserve Banks or to member banks, which in turn were required to deliver them to the Federal Reserve Banks.

Regulations on foreign exchange and gold exports. Foreign exchange dealings were temporarily ended by the bank holiday proclamation. The Executive Order of March 10 authorizing the Secretary of the Treasury to license the reopening of the banks permitted the resumption of normal nonspeculative foreign exchange transactions, but allowed gold exports only "in accordance with regulations prescribed by or under license issued by the Secretary of the Treasury." Following the reopening of the banks, permission to export gold for legitimate purposes appears to have been freely granted until April 18. After that date, export licenses were refused, in keeping with the newly developed policy of cutting loose the value of the dollar from that of gold.

THE ABANDONMENT OF GOLD

The reasons for the abandonment of gold. Before April 20, 1933, the external or foreign exchange value of the dollar was maintained close to its gold parity by the willingness of the Administration to permit gold exports to take place freely. To understand the reversal of this policy one must turn to the Administration's internal problems. When President Roosevelt took over the reins of government on March 4, the banking system was in a state of collapse and business was almost at a standstill. By drastic efforts the difficult banking situation was successfully dealt with and domestic confidence in banks was restored. But there remained the problem of business stagnation, unemployment, and the burden of debt that threatened to wipe out the equities of large numbers of farmers, businessmen, and home owners. Since September, 1931, wholesale prices had fallen 15 per cent, and farm prices had fallen 26 per cent. In contrast to the favorable price behavior in countries that abandoned gold in 1931, the experience with gold standard prices in the United States was far from satisfying. It is not surprising, therefore, that the Administration attempted to escape further deflation by suspension of the gold standard.

Removal of the right to export gold. On April 20, 1933, an Executive Order was issued that had the effect of definitely repudiating previous actions in permitting gold to be exported to maintain the exchange value of the dollar at its gold parity. This order expressly prohibited earmarking gold for foreign accounts and the export of gold or gold certificates, but the Secretary of the Treasury might allow the export of gold already earmarked for foreign governments and banks. He might also authorize the export of gold for other transactions that he deemed necessary to promote the public interest, provided the President gave approval. This order marked the end, for the time being, of attempts to maintain the gold value of the dollar. In effect it marked the abandonment of the gold standard.

Following the abandonment of gold on April 20, the foreign exchange value of the dollar in terms of gold francs fell 10 per cent, and during the month of May the exchange value of the dollar fluctuated around 85 per cent of parity in terms of gold currencies. On July 3, Secretary Hull, attending the World Economic Conference of 1933, presented a statement from President Roosevelt in which he condemned the "specious fallacy" of attempting to achieve what he called a temporary and artificial foreign exchange stability rather than seeking suitable and stable purchasing power.³ Under the impact of this rejection of a policy of exchange stability, the speculative pressure mounted against the dollar, driving it to a discount of 30 per cent below parity in July and 35 per cent in September.

The gold purchase plan. The spring and summer spurt in business activity began to subside in early autumn. Commodity prices began to recede with farm prices declining from a July high of 62.7 to 54.2 by the third week of October. At the same time industrial production fell off 24 per cent from the July high. Clearly the administrative efforts at inflation, the NRA, and the abandonment of gold were proving insufficient to produce a continuous improvement in business. Some new stimulus to prices and production was therefore in order if the promises of the Administration to provide recovery were to be fulfilled. The fall in farm prices brought with it increased agricultural discontent. Farmers' strikes appeared in protest against mortgage foreclosures.

³ On this point see Hodson, H. V., *Slump and Recovery, 1929-37*, New York, Oxford University Press, 1938, Chapter VI.

The pressure for inflation was increasing, and the President, in his broadcast speech of October 22, promised that prices would be raised. "If we cannot do it one way, we will do it another," he said. The specific method that he proposed to use was the lowering of the gold value of the dollar through the purchase of gold by the Reconstruction Finance Corporation at prices somewhat above the statutory price of \$20.67 per fine ounce.

The first step in the accomplishment of the purpose of the Administration to raise the dollar price of gold was taken on October 25, when the Reconstruction Finance Corporation announced the purchase of domestic mined gold at \$31.36 per fine ounce. Domestic gold miners had already been permitted to sell gold abroad at a price above the statutory price of \$20.67. This procedure was made possible by an Executive Order of August 29, 1933, which authorized the RFC to receive gold from domestic mines on consignment for sale to domestic licensees or for export. Because the dollar at that time was at a discount of about 30 per cent in terms of the gold franc, American mined gold could be sold abroad at a price varying around \$30 per fine ounce. On October 29, the RFC announced that it would buy foreign as well as domestic gold; and the price quoted from that time on was gradually raised, reaching \$33.56 on November 14, \$34.06 on December 18, and \$34.45 on January 16, 1934. Actually, only relatively small amounts of gold were purchased by the RFC.

The question may be raised as to whether or not these small purchases of gold by the RFC were responsible for the fall in the exchange value of the dollar that accompanied them. For instance, the speculative outflow of short-term capital that occurred in November forced the value of the dollar to a discount somewhat greater than was justified in the light of the current price paid for gold. Later, when the speculative movement against the dollar was reversed with a slowing up of efforts to depreciate it, the exchange value of the dollar rose to a point considerably above its current gold price. Such differences between the exchange value of the dollar and the price paid for gold by the RFC could not have occurred had the RFC maintained anything like a free and effective gold market at its announced price. One may conclude, then, that the price paid for gold by the RFC was more important as an indication of the future intentions of the

Administration than as a direct determinant of the rate of exchange.⁴

CONGRESSIONAL ACTION

Abandonment of gold and the introduction of the gold purchase scheme, mentioned above, were carried out under the authority of Executive Orders of the President under powers granted by legislation going back to World War I. Congress also enacted new legislation designed to meet the emergency and to combat depression and unemployment.

The Emergency Banking Act of 1933. On March 9, 1933, Congress passed the Emergency Banking Act which confirmed and extended the President's authority. It authorized the President to regulate or prohibit foreign exchange transactions, to prohibit the export or hoarding of gold, and other currency, and authorized the Secretary of the Treasury to *call in* all gold coin, bullion, and gold certificates when deemed necessary to protect the currency.

*The Thomas Amendment to the AAA.*⁵ Title III (known as the "Thomas Amendment") of the Agricultural Adjustment Act of May 12, 1933, conferred upon the President a number of *discretionary* inflationary powers. Included in this Amendment were the following provisions:

1. The President was authorized to direct the Secretary of the Treasury to agree with the Federal Reserve Board and the Federal Reserve Banks that the latter purchase and hold additional United States obligations to the amount of \$3,000,000,000. Such purchases increase the reserves of commercial banks and therefore tend to encourage bank loan expansion. If such added open-market purchases should result in any impairment of the legally required reserves of the Federal Reserve Banks, no penalty was to be applied for such deficiency.
2. The President was authorized to direct the Secretary of the Treasury to issue currency in the form of United States notes (greenbacks) to an amount of not over \$3,000,000,000 for the purpose of retiring interest-bearing United States obligations. Provision was made for the retirement of such notes at the rate of 4 per cent per year. This power, never exercised, was terminated on June 12, 1945.

⁴ Cf. Pasvolsky, Leo, *Current Monetary Issues*, Washington, D. C., Brookings Institution, 1933, p. 112.

⁵ For the text of the Thomas Amendment, see the *Annual Report of the Federal Reserve Board*, 1933, pp. 267-268.

3. The President was authorized to establish bimetallism with unlimited coinage of gold and silver at a ratio which he might fix.

4. The President was authorized to reduce the weight of the gold dollar to not less than 50 per cent of its gold weight. This was amended by the Gold Standard Act of 1934.

5. The President was authorized, for a period of six months, to accept silver in payment of intergovernmental debts to an amount not to exceed \$200,000,000. Silver certificates or silver coin might be issued by the Secretary of the Treasury to the amount of the debts so paid.

6. All coins and currency issued under the authority of the United States were made full legal tender. This was modified by the Joint Resolution of June 5, 1933, to include specifically under the legal tender provisions Federal Reserve notes, Federal Reserve bank notes, and national bank notes.

Only two immediate changes resulted from the passage of the Thomas Amendment: (1) All currency and coin became legal tender thus correcting the anomalous situation created by the antihoarding regulation of April 5, 1933, making it illegal to hold gold or gold certificates, which up to then had constituted the bulk of the legal tender money of the country. (2) A small amount of silver was received from abroad on war debt payments. No other discretionary powers were exercised until January 31, 1934, when the President devalued the dollar under the authority of the Thomas Amendment as amended by the Gold Reserve Act of 1934. The power to establish bimetallism expired, unused, on June 30, 1943.

The Gold Reserve Act of 1934. The Thomas Amendment of the AAA, of May 12, 1933, authorized the President to reduce the gold content of the dollar by 50 per cent. This authorization was optional rather than mandatory and was not at that time made the basis for administrative action. Instead, the gold-purchase policy was used in an attempt to raise prices. In January, 1934, a decision was reached to try the stronger remedy of out-and-out devaluation of the dollar. To this end, Congress passed the Gold Reserve Act of 1934 which became effective on January 30. The important provisions of this Act may be summarized as follows: ⁶

1. The title to all gold coin and bullion was vested in the United States Treasury.

⁶ For the text of the Gold Reserve Act of 1934, see the *Federal Reserve Bulletin*, February, 1934.

2. The Federal Reserve Act was amended (a) to make Federal Reserve notes redeemable in lawful money instead of gold certificates and (b) to require the Federal Reserve Banks to substitute the use of gold certificates in place of gold in satisfying the reserve, collateral, and redemption fund requirements for Federal Reserve notes.

3. The Secretary of the Treasury was authorized, with the approval of the President, to "prescribe the conditions under which gold may be acquired and held, transported, melted or treated, imported, exported, or earmarked: (a) for industrial, professional, and artistic uses; (b) by the Federal Reserve Banks for the purpose of settling international balances; and, (c) for such other purposes as in his judgment are not inconsistent with the purposes of this Act."

4. Gold coinage was prohibited and gold coin withdrawn from circulation and melted into bars.

5. United States currency was made redeemable in gold only as permitted by regulations of the Secretary of the Treasury approved by the President.

6. Any increases or decreases in the value of gold held by the Treasury as a result of changes in the weight of the dollar were to be added to or subtracted from the gold bullion holdings of the Treasury's general fund.

7. With the approval of the President, the Secretary of the Treasury was authorized to purchase "gold in any amounts, at home or abroad, . . . at such rates and upon such terms and conditions as he may deem most advantageous to the public interest. . . ."

8. The Secretary of the Treasury was authorized to "sell gold in any amounts, at home or abroad, in such manner and at such rates and upon such terms and conditions as he may deem most advantageous to the public interest and the proceeds of any gold so sold shall be covered into the general fund of the Treasury: *Provided however*, That the Secretary of the Treasury may sell the gold which is required to be maintained as a reserve or as security for currency issued by the United States, only to the extent necessary to maintain such currency at a parity with the gold dollar."

9. A stabilization fund of \$2,000,000,000 was established out of the profits of the devaluation of the dollar. This fund might be used by the Secretary of the Treasury, with the approval of the President, to deal in gold, foreign exchange, other instruments of credit, and securities. The existence of the fund and the powers to use it were limited to a two-year period with the power of the President to extend its life one additional year. Subsequently the life of the fund was extended indefinitely by Congressional action on July 31, 1945. The Act of 1945 directed the Secretary of the

Treasury to use \$1.8 billions from this fund to pay part of the United States' subscription to the International Monetary Fund.

10. The Thomas Amendment to the AAA of 1933 was amended to *require* the President to fix the gold content of the dollar at not more than 60 per cent and not less than 50 per cent of its existing figure. Originally, this power to change the gold content of the dollar within the limits fixed by the act was to expire in two years, with the power of the President to extend it one year more if emergency conditions seemed to require it. Three times, however, in 1937, 1939, and 1941, Congress extended the time of this provision. It finally expired on June 30, 1943.

The devaluation of the dollar. On January 31, under the authority of the above provision, the President, by proclamation, fixed the gold content of the dollar at $15\frac{5}{21}$ grains of $\frac{9}{10}$ fine gold. The new dollar, therefore, was given a gold content equal to 59.06 per cent of its old content; and, in terms of the new gold dollar, the price of gold was fixed at \$35 per fine ounce. No further changes in the gold content of the dollar were made before the expiration of Presidential authority to make such changes on June 30, 1943. This means that the gold dollar remains at its present size of $15\frac{5}{21}$ grains of .9 fine gold unless Congress authorizes additional changes at some time in the future.

Reasons for reducing the gold content of the dollar. The purpose behind the devaluation of the dollar was to raise the internal price level of the United States. Apparently the action was taken in reliance on the view, advanced by the late Professor George F. Warren, that "by reducing the weight of the gold in the dollar any desired price level can be established."⁷ The validity of this view is open to serious question and will be more extensively examined in Chapter 33.

The Treasury's authority to buy and sell gold. In spite of the fixed legal definition of the dollar in terms of gold, its practical relation with gold depends upon the continuation of the Treasury's policy of buying and selling gold freely at \$35 per ounce. This policy, however, is not mandatory, for the law states that the Secretary of the Treasury may purchase and sell gold *at such rates and on such terms* as he deems "most advantageous to the public interest." It follows, therefore, that the Treasury need not buy or sell gold at all, if the Secretary so chooses. Moreover, before

⁷ Warren and Pearson, *Prices*, New York, John Wiley & Sons, 1933, p. 370.

our commitment to the Bretton Woods Agreements in 1945 the Secretary could *change* the buying and selling price of gold except that gold acting as security for the United States currency, *i.e.* gold certificates and United States notes, could be sold only at par.

But the Bretton Woods Agreements Act of July 31, 1945, authorizing the entrance of the United States into membership in the International Monetary Fund, appears to have closed the door to any future change in the price of gold by administrative act. First, it specifically states that there shall be no change in the par value of the dollar without Congressional authorization. Second, under the rules of the International Monetary Fund gold may not be purchased or sold at a price that is more than $\frac{1}{4}$ of one per cent away from parity. In addition, because members of the Fund agree to allow foreign exchange rates to fluctuate not more than one per cent away from parity, and to purchase gold at par from the Fund when needed to provide other countries with a scarce currency, the Treasury now appears bound in fact to purchase and sell gold at prices close to the established parity.

The repeal of the gold clause in contracts. With the withdrawal of the right of private citizens to possess gold or gold certificates, an anomalous situation arose in connection with the provision, commonly appearing in debt contracts, that payment was to be made in dollars containing 25.8 grains of .900 fine gold. The existence of such provisions is explained by the experience of creditors in the paper money period following the Civil War, when ordinary debts incurred before the suspension of gold payments were discharged by the payment of the inconvertible and depreciated paper currency, whereas debts expressly payable in coined dollars could be satisfied only by payment in such dollars.⁸

To meet this situation, Congress passed a Joint Resolution approved by the President on June 5, 1933, declaring that contracts to pay obligations in gold or in any particular kind of coin or currency, or in an amount in money of the United States measured thereby, to be against public policy. All obligations were therefore to be discharged by the payment, dollar for dollar, in any legal tender money. The constitutionality of this resolution was contested in the Federal courts, and a final decision was given by the United States Supreme Court on February 18, 1935. In

⁸ For a good summary of the Legal Tender Cases of this period, see Kemmerer, Edwin W., *Money*, New York, The Macmillan Co., 1935, pp. 260-268.

these cases two issues were presented. Two cases represented attempts of creditors to collect the equivalent of the old gold dollars in terms of the smaller new dollar from a private debtor. A third case arose out of the attempt of a holder of \$10,000 in Liberty bonds to collect \$16,931.25 in new gold dollars when the bonds were due. In the case of the actions brought to collect the equivalent of old gold dollars from private debtors, the Court held that, since Congress has the right to regulate the currency, the exercise of such a right could not be fettered or obstructed by limitations placed in private contracts. It therefore refused the plaintiffs a remedy. In the action against the United States Government itself, the Court held that Congress did not have the power to abrogate existing contractual obligations of the government. Therefore, it held that the plaintiff had a cause of action for breach of contract. But, because the plaintiff was unable to demonstrate that the devaluation of the dollar had actually caused him any loss, he was unable to recover. The Court offered two explanations for its conclusion that the bondholder had suffered no damage. First it was pointed out that at the time when the bonds matured Congress had already required old gold coin to be turned in to the banks in exchange for legal tender paper currency. Had the bondholder received gold dollars of the old weight, he would have been duty bound to surrender them immediately in exchange for legal tender paper. Consequently, to compel him to accept the legal tender paper at the beginning in no way caused him any damage. Apparently, however, this argument failed to satisfy the Court entirely in the light of its initial finding that the resolution abolishing the gold clause in the United States bonds was unconstitutional. The Court therefore advanced a second reason why the bondholder had suffered no damage. It held that the purchasing power of the dollar had not changed with the reduction of its gold content, hence the bondholder had suffered no loss. This argument left the inference, however, that bondholders might be entitled to damages should a subsequent rise in the price level occur.

The Court's decision has been criticized as lacking both logic and clarity. Nevertheless it did succeed in accomplishing rough justice in a difficult situation. It promised protection to the bondholder, should he prove damages, and at the same time prevented unjust enrichment of the bondholder through an un-

merited windfall.⁹ On August 27, 1935, Congress passed a resolution withdrawing the right of an individual to sue the United States on the gold clause in its securities. This shut off the possibility of troublesome litigation based upon damage arising from devaluation of the dollar.

THE UNITED STATES GOLD PROBLEM

Before the devaluation of the dollar on January 31, 1934, the monetary gold supply of the United States was of modest proportions. At that time, the world supply of monetary gold was roughly 12 billion dollars, of which the United States held about one-third. By 1941, the situation had markedly changed. Measured in terms of the new, smaller gold dollar, the supply of monetary gold in the United States had risen, in October 1941, to \$22.8 billions. This total amounted to roughly three-quarters of the world's total supply of monetary gold and was a new high point in gold holdings of the United States. In a period of a little less than eight years, our gold supply increased \$18.8 billions.

Causes of the increased gold stock of the United States. When the dollar was devalued, a gold "profit," amounting to about \$2.8 billions, resulted. This profit became the property of the Treasury and was added to the stock of gold dollars. In addition, about \$.2 billions in gold, bought by the RFC under the Gold Purchase Plan, was recorded as a part of the monetary stock. Third, the Treasury acquired about \$1.2 billions of gold from domestic producers and from scrap. Out of the \$18.8 billions increase, therefore, somewhat over \$14 billions represented imported gold.

The causes of the import of this vast amount of gold fall into three main categories. First, a considerable amount of American owned funds had accumulated abroad during the period when the dollar's future value was uncertain. The act of devaluation on January 31, 1934, was taken to mean that the dollar was being stabilized at that point. Therefore it was a signal for the return of these funds to the United States. In the period 1934-1940, about \$2 billions of American owned capital was thus repatriated. Second, foreign banks, firms, and individuals began to show a marked preference for American funds and investments. By the purchase of American bank balances and various types of invest-

⁹ For a discussion of this decision, see Hart, Henry M., "The Gold Clause," *Harvard Business Review*, May 1935.

ment securities, over \$9 billions of foreign owned capital entered the United States in search of security and income. Finally, during this period United States exports exceeded imports (including silver) by more than \$3 billions. Thus, the gold was purchased by relinquishing American claims on foreign funds, the sale of American bank deposits and securities, and a substantial "favorable" balance of exports.

The inflationary aspect of the gold problem. Although devaluation directly increased the number of gold dollars by about \$2.8 billions (the amount of the profit), it caused almost no change in the reserves of the banking system. Two billion dollars of the gold profit was placed in the Stabilization Fund, of which only about \$200,000,000 was put in the Federal Reserve Banks. About \$600,000,000 of the profit was used in July and August of 1935 to retire the United States bonds used to secure outstanding national bank notes. To accomplish this, gold certificates were deposited with the Federal Reserve Banks and Federal Reserve notes were issued to replace retired national bank notes. Thus, this amount of the gold profit was absorbed without inflationary consequences.

Nevertheless, the continued increase in the country's gold stock during the 1934-1941 period created an inflation potential of first magnitude. As long as the United States Treasury purchases new and imported gold at \$35 per ounce out of funds derived by depositing gold certificates with the Federal Reserve Banks, additional gold supplies result in corresponding increases in the size of bank reserves. To prevent incoming gold from resulting in such reserve increases, the Treasury, in December 1936, undertook to buy gold with funds borrowed from banks. This practice, referred to as the *sterilization of gold imports*, avoided any increase in member bank reserves and in gold certificate reserves of the Federal Reserve Banks. The scheme, however, was somewhat expensive, since the Treasury borrowed the funds needed to purchase gold, and could hardly be continued indefinitely in the face of continued high gold imports. The practice was abandoned in 1938 and gold certificates were issued against the free gold previously acquired. This reversal in policy arose from the desire to combat the business recession of 1937-1938 by expanding the excess reserves of the banking system.

The continued inflow of gold raised member bank excess reserves beyond any possible need for combatting depression. In

October 1940, excess reserves reached a high of \$6,940,000,000. Such an excess supply of reserve funds constituted a threat that a period of business expansion might touch off a sharp inflation beyond any power of the Federal Reserve System to restrain.

Entry of the United States into the war, however, largely eliminated consideration of this problem. The tremendous expenditures of the government led to substantial dependence upon bank credit expansion. As a result, the expansion feared as an inflationary threat during peace became a reality during the war. The greatly expanded requirements for money in circulation which accompanied the growth of money income rapidly exhausted member bank excess reserves and compelled them to seek for more at the Federal Reserve Banks. Since the war, with prices already sharply higher than before the war, and with the national income at a high level, our monetary gold supply of over \$24 billions is not excessive.

The economic cost of our gold imports. Warnings have not been lacking that the United States was engaged in the grossest form of economic folly when it continued to buy such excessive amounts of gold at the high price of \$35 per ounce. Today, with the world off the gold standard and few natural forces tending to reverse the flow, we may expect to continue to receive a large fraction of current and future gold output of the whole world, in addition to much of its present stocks. The United States, therefore, might find itself the owner of a "demonetized" world's gold supply. The outlook in such a case would be dismal indeed. But it is impossible to judge the future of gold in any very accurate manner. One must keep in mind that "demonetization" of gold is not the same as the abandonment of the gold standard. A country leaves the gold standard when it ceases to convert its paper currency into a fixed amount of gold with the privilege of export. But even so, such a country may continue to buy and sell gold at varying prices for the purpose of stabilizing exchange rates. Such "sliding parities," although not constituting a gold standard, do not mean that gold has been demonetized. The International Monetary Fund is established on the assumption that currencies are to be linked together in terms of gold even though provision is made for change of gold parities when necessary. It appears unlikely, therefore, that gold will be so demonetized as to become internationally unacceptable in the near future.

THE SILVER QUESTION

Falling silver prices inevitably stimulate agitation on the part of silver producers that something be done to raise its value.¹⁰ Their efforts have been directed at (1) trying to bring about an improvement in the international market; and (2) inducing Congress to provide a bounty in the form of an artificially high price for silver for domestic coinage. In these efforts, the silver producers have frequently been enthusiastically supported by the inflationists, who see in an increase in the monetary use of silver a means of expanding the quantity of money. To make their arguments more palatable, the advocates of special measures for silver appealed for public support on the following general grounds:¹¹

1. An increase in the value of silver would increase the purchasing power of something over one-half of the world's population represented as being dependent upon the price of silver. It was alleged that this would greatly aid American export trade and promote recovery.¹²
2. Adding silver to the metallic money supply would greatly broaden the metallic base and offset the inadequacy of the gold supply.
3. It would furnish a means of controlled inflation.

The Thomas Amendment permitted the Treasury for six months to receive silver at 50 cents per ounce in payment of war debts. Under this Act, 22,734,824 fine ounces of silver were taken on payments due June 15, 1933.

In accordance with an agreement of July 27, 1933, among the five big silver producing countries of the world, aimed at supporting silver prices by withholding domestic production from world markets, the United States Treasury offered to purchase all domestic mined silver at 64.5 cents per fine ounce. This price gave domestic producers a subsidy of 30 cents per ounce but gave the Treasury a potential seigniorage of 64.5 cents, since one ounce of fine silver can be used to back \$1.29 in silver certificates.

¹⁰ For a comprehensive examination of the silver question, see Leavens, Dickson H., *Silver Money*, Bloomington, Ind., The Principia Press, 1939. Also see Leong, Y. S., *Silver*, Washington, D. C., Brookings Institution, 1933; and Westerfield, Ray B., *Our Silver Debacle*, New York, The Ronald Press, 1936.

¹¹ Leavens, *op. cit.*, p. 236.

¹² The fact was ignored that China was the only important silver standard country in 1934 when these arguments were being advanced.

The Silver Purchase Act of 1934. Yielding to the combined pressure of inflationist Congressmen and those representing the silver-producing states, Congress passed the Silver Purchase Act of 1934. This Act declared it to be the policy of the United States to increase the proportion of silver to gold in the country's monetary stocks, with the objective of "having and maintaining" one-fourth of the monetary value of such stocks in silver. To this end, the Secretary of the Treasury was directed to purchase silver, at home or abroad, at a price not to exceed its monetary value of \$1.29 per fine ounce. Further, existing stocks of silver in the United States were to be bought at a price of not over 50 cents per ounce. Silver certificates were to be issued against purchased silver to the amount of its cost, and such certificates were made full legal tender and redeemable in silver dollars. Under the original law, the Treasury could not *sell* any silver so purchased unless and until its market value reached \$1.29 cents per fine ounce or the monetary value of the stocks of silver in the monetary system exceeded 25 per cent of the monetary value of the combined stocks of silver and gold.

Nationalization of existing domestic silver stocks. A Proclamation and Executive Order issued by the President on August 9, 1934, required all silver stocks (with a few unimportant exceptions) to be turned over to the Treasury at the price of 50 cents per fine ounce. As a result, approximately 113,000,000 ounces of silver was acquired by the Treasury.

The purchase of foreign silver. Following the direction of the law, the Treasury proceeded to purchase silver from foreign markets. The result was a substantial increase in the open market price of silver bullion. In 1933, silver was quoted at a price as low as 24.8 cents per ounce. During 1934, it averaged 48.2 cents, and in 1935 it rose at one time to a high of 81.3 cents although the average for the year was only 64.5 cents. Thereafter the Treasury continued to purchase substantial amounts of foreign silver while resisting the speculative price increases that made their appearance during 1935. The average price in 1936 was about 45 cents, and by 1941 the price of foreign silver had fallen to 35 cents, which was the price offered by the Treasury. After November 1941, purchases of foreign silver by the Treasury ceased.

The silver purchases resulted in but modest improvement in

the long-run price of silver. There was, however, an unexpected result that deserves attention. Advocates of the silver purchase plan believed that trade relations with the Orient would be improved by an increase in the world price of silver. Actually, the opposite result appeared. The sharp increase in the price of silver in 1934 and 1935 so increased the exchange value of Chinese currency as to destroy China's export trade and consequently reduced further China's ability to purchase imports. Furthermore, the high price of silver, resulting from Treasury purchases, led traders and speculators to buy Chinese silver currency for export to the United States. The resulting drain upon the Chinese silver reserves was so great that in 1935 China abandoned the silver standard and adopted instead the gold exchange standard.

The effect on domestic silver. From the standpoint of the Silver Bloc, the domestic results were gratifying. Beginning in 1933, the President fixed the price to be paid for newly mined domestic silver at 64.64 cents per fine ounce. This price was later raised to 77.57 cents in 1935 but was reduced to the original price again in 1938. In 1939, Congress took a hand in the matter and decreed that the price should be 71.11 cents where it remained throughout the war years. After the war the Silver Bloc again began to demand higher prices for silver. At first the goal of \$1.29 per ounce was insisted on, but in July 1946, a compromise was reached, providing that domestic silver should be bought by the Treasury at 90.5 cents and permitting the sale of silver by the Treasury at the same price. Because the world market price for silver has been substantially below 90.5 cents, all domestic silver production has gone to the Treasury and the Treasury has not been called on to make any sales.

The sale of silver by the Treasury. The Silver Purchase Act of 1934 provided that silver might be sold whenever the market price was above \$1.29 per fine ounce or when silver made up one-fourth of the total monetary gold and silver stocks of the country. Neither of these contingencies has so far occurred. Hence during the war, when the need for silver for industrial and other uses expanded greatly, the silver in the Treasury acquired under the Silver Purchase Act of 1934 could not be sold. Several expedients were therefore used to meet the need. First, newly mined domestic silver was diverted from the Treasury by the simple method of fixing the OPA ceiling price a bit above the

Treasury price. To relieve the shortage of copper it was decided to substitute silver as electrical conductors in war plants. The Secretary of the Treasury, on April 8, 1942, announced that there was legal authority to lend-lease, for war production use, free silver stocks not held as security behind silver certificates. To this end the Treasury made an agreement with the Defense Plant Corporation. More than 700,000,000 ounces of free silver was made available in this manner. In addition, the Treasury used this authority to lend-lease free silver to foreign countries for periods of from five to seven years. Also, during the year 1942 the Treasury sold 5,000,000 ounces of "ordinary" silver, not obtained under the Silver Purchase Act of 1934, at a price of 45 cents per ounce.

New legislation of July 12, 1943, known as the Green Act authorized the domestic sale or lease of silver upon the recommendation of the War Production Board. Under this Act, any silver held or owned by the Treasury could be sold at a price of 71.11 cents per ounce so long as the Treasury maintained ownership and possession or control, within the United States, of an amount of silver having a monetary value equal to the face value of all outstanding silver certificates. Under this law any part of the free silver stocks could be sold for domestic use under priorities issued by the War Production Board. Furthermore, since ownership and control was maintained over silver lent to defense plants for use as electrical conductors, it was possible to consider such silver available as security for silver certificates. Thus, the silver stocks available for sale and lend-lease to foreign countries was greatly increased. The Green Act expired at the end of 1945.

Some results of the silver purchase policy. To simplify the picture of our silver buying policy it is helpful to examine the Treasury's purchases of silver and the disposition made of the silver thus acquired. The purchases for the period represented by the fiscal years 1933-1946 may be summarized as follows:

	Fine Ounces
Silver taken on foreign debts.....	22,734,824
Nationalized silver	113,032,916
Foreign silver	2,045,231,408
New-mined domestic silver	507,210,428
Total silver purchased	2,688,209,576

Various uses were made of this silver. First, bullion valued at \$1.29 per fine ounce was set aside as security for the issue of silver certificates. Originally only enough silver certificates were issued to cover the cost of the silver bullion purchased. Since the average cost of the silver was slightly less than 50 cents per ounce, there was a "seigniorage" or potential profit of almost 80 cents per ounce that could be realized when and if the Treasury issued silver certificates to the full extent of the silver's monetary value of \$1.29. Actually the Treasury, from time to time, did issue silver certificates in excess of the cost of the silver. In addition to silver monetized to secure silver certificates, some silver was used for minting subsidiary coins and a few silver dollars; some was sold during the war for industrial uses, and some was lend-leased to foreign countries. To summarize, the uses made of the purchased silver up to July 1, 1946, were:

	Ounces
1. Monetized, as security for \$1,909,098,500 in silver certificates	1,476,568,375
2. Sold to war industries, 1943-1945, under the Green Act	167,380,241
3. For subsidiary coinage and standard silver dollars	436,985,096
4. Lend-leased to foreign governments	410,814,344
Total dispositions	2,491,748,056

It is evident from the total purchases and the amount of silver allocated for monetary uses or otherwise disposed of, that as of June 30, 1946, the Treasury held about 200,000,000 ounces of silver, purchased under the Silver Purchase Act, free from commitments and therefore available for further monetization or sale. At the same time, the Reconstruction Finance Corporation held silver to the amount of 877,715,000 ounces, which had been leased for war uses in defense plants. This silver, counted as security for silver certificates, is being gradually returned to the Treasury as the need in defense plants has expired.

Finally, it is of interest to see the extent to which the purchase of silver has fulfilled the aims set forth in the law. When the law was passed in 1934 the ratio of silver to the combined gold and silver stocks was 9.6 per cent. In 1938 the ratio of silver to total stocks of gold and silver reached a peak of 19.1 per cent. By

August 1949, it had declined to 13.3 per cent. When the Act was passed in 1934, it was estimated that 1.3 billion fine ounces of additional silver would have to be purchased to fulfill the stated aims of Congress. In 1949, after fifteen years, during which about $2\frac{3}{4}$ billion ounces of silver was purchased, the Treasury was still over 2.2 billion ounces short of its goal of one dollar in silver for each three dollars in gold. The enormous gold imports during this period, of course, have been responsible for this situation. Today it is clear that there is little possibility of achieving the goal set in the Act, and it is to be hoped that the absurdity of the silver policy it represents will become so apparent that Congress will see fit to repeal it. In the meantime, the Treasury has practically ceased its purchase of foreign silver.

Questions for Study

1. Why did the value of the U.S. dollar in terms of gold francs drop sharply after April 20, 1933?
2. What reasons lay behind the gold purchase plan of the RFC in 1933-34?
3. Which of the provisions of the Thomas Amendment ultimately resulted in actual monetary changes?
4. What important changes in United States monetary affairs resulted from the Gold Reserve Act of 1934?
5. Do you believe it wise and necessary to *require* the Treasury to buy and sell gold at \$35 per fine ounce instead of leaving it to the discretion of the Secretary?
6. Some of those who advocate a return to a full gold coin standard make much of the point that it would enable the public to insist on sound government fiscal policy by demanding gold redemption of the currency. What do you think of this argument?
7. Did devaluation of the dollar in 1934 cheat the public holders of money out of 41 per cent of its value? Did it constitute a fraud on the holders of U.S. government bonds?
8. Why did the gold stock of the country increase by \$18 billion in the 1934-1941 period? Did that increase result in currency inflation?
9. What were the results of the Silver Purchase Act of 1934? In the light of the great increase in the requirements for money in circulation during the war, do you think that the results of the Act have been bad? Just how much have the purchases of silver *cost* the U.S. Treasury? Should taxpayers object on the grounds that it has increased taxes?

Part II

Banks and Their Operation

The Banker's Place in Economic Society

WE HAVE ALREADY LEARNED SOMETHING OF THE IMPORTANCE OF bank credit or "bank money" in the modern monetary system. Most of our supply of "effective money" in common use by the general public takes the form of bank notes and bank deposits. It is necessary, therefore, that we now make a careful examination of the mechanism, the operations, and the principles of banking. This will provide the background needed for the later analysis of the theory of money and prices and an exploration of modern monetary problems.

FINANCIAL INSTITUTIONS

Banks as financial institutions. An approach to the subject of banking may be made most easily by examining the larger general field of financial institutions to which banking belongs. A financial institution may be defined as an organization through which funds in the form of money or claims to money are assembled and transferred from those individuals and firms having a surplus of economic goods (as represented by such funds) to other individuals and firms whose needs for funds exceed their existing supply.

Economic desirability of financial institutions. It is easy to understand why financial institutions have become so essential a part of modern economic life when one considers that specialization and competition have tended to place in control young and energetic individuals equipped with the necessary talents but lacking the required capital. Any means of transferring capital from the hands of its owners to the eager hands of the businessman is certain to be looked upon with favor by both the lender and the borrower. Not only are the immediate parties benefited by the

existence of financial institutions, but also the welfare of economic society as a whole is promoted. If the process of assembling and redistributing capital funds is wisely carried out, the result is a more effective distribution of capital funds and capital goods than would otherwise be possible.

Types of financial institutions. The stock market, using the term in its widest sense, is one important type of financial institution. Through its operations, funds of speculators and investors are put into the hands of corporations whose stock is being offered for sale. It facilitates the exchange of funds intended for permanent investment for certificates of stock representing ownership.

Investment bankers, bond houses, security companies, and underwriting syndicates act as intermediaries between persons needing capital funds and the investors. By purchasing securities with funds at their command, the investment bankers are able to seek out potential investors and induce them in turn to purchase securities. Somewhat akin to the activities of investment bankers are those of the different varieties of investment trusts, which issue their obligations to investors and use the proceeds for the purchase of securities. The trust departments of banks and trust companies also perform the functions of financial middlemen. Life insurance companies, accumulating reserves through their use of straight-line premium payments and endowment policies, constitute another special form of financial institution. Bill brokers and commercial paper houses, although less in the public eye, are also important cogs in the financial machinery.

It is with those institutions commonly called banks that we are primarily concerned here. Banks might logically be divided into two classes—savings and commercial: savings banks proper, to receive only deposits which are not subject to check, and commercial banks, to accept demand deposits. In practice such a division cannot be made, since the savings and commercial banking functions are frequently, if not normally, carried on by the same bank. These two functions, however, are sufficiently different to warrant separate consideration.

Savings banks. The savings bank presumably gathers in the thrift accounts or the "rainy-day" savings of the poor and middle classes, promises to return the money deposited on due notice (normally waived), and invests the funds in conservative securities, mortgage loans, or other earning assets. The depositor benefits

by receiving interest on his funds, by the security derived from the expert diversification of investments provided by the bank, and by the protection arising from the bank's capital, surplus, and undivided profits (or surplus, if it is a mutual savings bank). In case of loss on the bank's investments, the bank's capital and surplus act as a guaranty against loss for the depositor. The savings bank furnishes the small saver with a service that is not available to him through any other financial institution.

THE COMMERCIAL BANK

In contrast to the savings bank, which holds thrift accounts and time deposits intended for more or less permanent investment, the commercial bank acquires the short-time, temporary surpluses of individuals and business houses. A person may deposit his salary check and draw on the account so established during the interval before he receives additional income. The business house, because of the failure of income to synchronize perfectly with outgo, will normally carry some surplus funds on deposit with the bank. This surplus will sometimes be great and sometimes small. At times of heavy expenditure it may disappear altogether, and the depositor will be forced to borrow.

Commercial bank deposits and fractional reserves. The commercial bank provides depositors with a very real service. Not only does it protect the funds of depositors from the dangers of loss and theft, but also it provides a safe and highly convenient method of transferring funds through the use of checks. The superiority of checking accounts over actual currency makes them almost universally acceptable in lieu of cash among people able to afford them. Because the public is willing to hold and use checking accounts instead of currency, banks can maintain a volume of checking accounts several times as large as their cash reserves. When depositors write checks, the receivers of these checks also will almost certainly be depositors in banks. Hence the writing of checks on the ordinary bank deposit does not cause the total volume of demand deposits to shrink. Of course, if a bank had but a single depositor, any checks written would certainly cause a shrinkage of that bank's deposits and an increase in the deposits of other banks. But the typical bank with a large number of depositors finds that, on the average, it will receive checks on other banks to an amount substantially equal to funds

drawn out by its depositors. Hence, the net amount of cash reserves that such a bank must carry to meet the demands of its depositors is only a modest fraction of its total deposits.

The nature of commercial bank deposits. Perhaps it will be easier to visualize the place of the commercial banks in our economic society if we first compare them with the savings banks. Savings deposits expand when individuals set aside some of their current money income and deposit it in the savings banks. These saved funds consist of currency, coin, and checking account funds on deposit in commercial banks. Through this voluntary saving process, savers refrain from consuming all of their incomes, and instead, take savings deposits. The savings banks then lend or invest the saved funds, and some expansion of capital goods ultimately results. The savings banks are but middlemen in the saving-investing process. To the extent that they carry on the investment process promptly and regularly there is no resulting change in the volume of money except the modest amount that savings banks must set aside as cash reserves against the new savings deposits. This is so because the savings deposits, themselves, are not readily transferable and are not, therefore, used as a part of the country's media of exchange.

The demand deposits of commercial banks, on the other hand, have two distinct characteristics that distinguish them from true savings deposits. First, they are a part of the media of exchange of the country—in fact, they comprise the bulk of such media. In January 1950, the adjusted demand deposits of commercial banks amounted to \$86,800,000,000, whereas the currency in circulation outside of banks was but \$24,500,000,000. Hence a change in the volume of commercial bank demand deposits has real importance in determining the trend of general prices and business activity. On the other hand, a growth in savings deposits has little direct affect on the price level. In the second place, demand deposits have a different origin from that of savings deposits.

The origin of commercial bank deposits. Demand deposits originate in two ways. First, they result in part from the deposit of actual currency and coin that customers wish to exchange for the more convenient checking account money. This happens if a slackening of business reduces the need for money in circulation, or if a change in monetary habits of the community creates a greater preference for checking account money than before.

Furthermore, whenever the supply of standard money and central bank money increases, the bulk of such increase will often find its way into checking accounts of the commercial banks. For example, the import of gold raises the volume of checking accounts because gold importers prefer to hold checking accounts rather than gold itself, regardless of any legal barriers to the holding of gold or gold certificates by private citizens. Likewise, any other additions to the currency supply made by the government, such as new silver certificates issued to pay for silver purchases by the Treasury, will tend to increase the deposits of the commercial banks. Thus we see that a growth in demand deposits from this source results in an equal growth in the cash reserves of the banks. The banks, then, are merely acting as warehouses for the added supply of currency and other basic monies. The purpose of such deposits is to provide a more convenient form of money. The demand depositor is not a "saver" in the same sense as is the savings depositor. So long as he holds his demand deposits instead of other money brought to the bank, he has not given up purchasing power to anyone else nor has he contributed to the supply of capital goods.

Demand deposits originate also in the loan and investment activities of the banks. As was explained earlier, commercial banks find it unnecessary to carry a full 100 per cent cash reserve against their deposits in order to fulfill their obligation to depositors. Instead, only some fraction of deposits need be carried in cash, a fraction that varies somewhat with legal requirements and the experience of particular bankers. Banks therefore find it possible and profitable to lend and invest on the basis of their excess cash reserves. Borrowers, like the original depositors of currency and cash, prefer checking accounts. Lending banks therefore credit the amount of new loans to the borrowers' checking accounts. As a result, when commercial banks expand their loans and investments, the quantity of checking accounts tends to expand by a like amount. To be sure, some borrowers or persons receiving checks may need cash instead of deposits and to this extent the volume of checking accounts will not increase, but in the main borrowers take the proceeds of loans in checking account form.

The limit to the creation of new checking accounts by bank loans and investments is set by the customary or legal cash reserves that the banks carry. If reserve requirements are 20 per cent, the

banks can lend and expand checking accounts only to the point where the existing cash reserve is 20 per cent of deposits. Beyond this point banks cannot go without further additions to their cash reserve supply. It is proper to point out in this connection that this discussion of the manner in which loans lead to deposit expansion *does not mean that individual banks* can lend more than their own excess cash without danger of loss of cash to other banks. This subject will be more fully discussed in Chapter 20. It is sufficient for our purpose here to recognize the basic fact that the commercial banks *as a system* can and do, by lending and purchasing securities, expand the quantity of demand deposits to a point where their actual cash is but some fraction of their total deposits.

Commercial banks "monetize" borrowers' debts. It is well to consider for a moment the real results of the action by commercial banks in creating "money" by expanding checking accounts through the loan process. First, what the commercial banks actually do is to "monetize," or convert into acceptable checking account form, the credit obligations of borrowers. A borrower of good credit standing can be thought of as the possessor of *potential* purchasing power. In fact, he may be able on some occasions to exchange his promissory note directly for commodities that he wishes to purchase. Generally, however, the seller is able and willing to make such an exchange only if the buyer's note is "bankable"; that is, it can be sold to a bank in exchange for checking accounts. Therefore the borrower who can go directly to the bank and exchange his own note for the much more acceptable checking account in the bank has bettered his position substantially. He has traded his own note for the more highly acceptable demand promises-to-pay of the bank in checking account form. For this service the borrower is willing to pay the bank interest, for he is now in position to purchase productive capital resources in exactly the same way as if he had borrowed from the savings bank funds deposited there by voluntary savers. The earnings of the bank, of course, must be applied to meet the considerable expense of operating the checking account service and the cost of assuming the risk of loss on the individual borrower's note. Any remainder goes to the banker as profit.

It is necessary to point out that the banks can and often do destroy part of the supply of checking accounts previously created by their loan expansion. For example, when a borrower repays a

loan, he does so by accumulating a sufficient balance in his checking account to enable him to give the banker a check in payment. When the check is drawn, the bank returns the canceled note to the borrower and the borrower's checking account is reduced by the amount of the repayment. Whenever the bank refrains from making a new loan to replace the one repaid, the supply of checking account money is reduced.

Commercial banks, as we have seen, are in the position of being able to expand the supply of funds available to borrowers so long as there is an adequate supply of excess reserve cash. This means that opportunities for borrowing available to businessmen are not tied down to the "thrift" accumulations of income receivers, but instead are mainly limited by the available cash reserves of banks and their minimum reserve requirements. Thus, if the commercial banks hold \$1,000,000,000 in free excess cash reserves and are required to carry 20 per cent cash reserves against demand deposits, bank loans can be increased by \$5,000,000,000 regardless of the volume of voluntary savings out of income. This power of the commercial banks to lend newly created money in checking account form without regard to the rate of savings out of income is a matter of great economic importance.

THE ECONOMIC FUNCTIONS OF COMMERCIAL BANKS

The economic functions of commercial banks fall into three main categories. First is the operation of a system of clearing and collecting checks, which makes possible the use of checking accounts as a part of the country's media of exchange. The mechanism involved in performing this function will be examined more fully in a later chapter. Second is the function involving the creation of checking account money through the process of lending and investing. It is through this function that commercial banks influence the accumulation of capital goods or real savings. Third is the function of directing the distribution of funds and current working capital among the users of capital in the business world.

We shall now examine the effects of the expansion of money by commercial banks as they "monetize" the credit of individuals and firms. Assuming that the banks possess excess cash reserves, they can expand their loans and their deposits to the appropriate multiple of such excess reserves. Whenever businessmen of good

credit standing wish to expand their real capital resources, they may borrow either from the savings banks or from the commercial banks. The lending ability of the savings banks is limited strictly to the funds deposited with them by voluntary savers. Not so the commercial banks, however. The latter are able to create new money in the form of new checking accounts lent to borrowers. This power of the commercial banks has great economic significance, which stems from the fact that commercial bank loan expansion frees the rate of investment from the plodding pace set by voluntary saving and permits it, on occasion, to bound rapidly ahead. It follows, of course, that when the expansion stops, as it eventually must when the excess cash reserves of the banks are exhausted, the rate of investment is rudely reduced. Furthermore, when banks *reduce* the level of their loans, the subsequent fall in the quantity of checking accounts tends to reduce real investment.

Commercial bank credit and capital formation. How does commercial bank credit expansion bring about an increase in real investment or the accumulation of real capital goods? It is clear that the creation of new checking accounts does not in itself contain a magic that creates a corresponding amount of new capital goods. Somewhere in the economy someone must produce more than he consumes in order that this expansion may come about. In other words, there must be *real saving* by someone before an expansion in capital goods can occur. The question is how this real saving does come about. The answer can best be found by following through the sequence of events set in motion when banks grant borrowers loans. Armed with what is essentially *new money*, borrowers set out to buy supplies and equipment they need to expand their business operations. Whenever the capital goods industries whose products are wanted are operating at less than full capacity, as frequently happens during depressions, such purchasing by the business borrowers leads to an increase in industrial output. From this increase the borrowers obtain their capital goods. The expansion of bank credit, therefore, has had the benevolent result of making possible an increased supply of productive equipment out of what otherwise might have been mere idle time. In this case consumption need not decline at all. On the contrary, the improved employment in the capital goods trades will lead to more activity in industries producing

consumers' goods. It should be evident, then, that bank credit expansion may be decidedly beneficial in time of business depression and unemployment.

The situation is different when bank credit expansion continues, as it often does, after the industrial system reaches full employment. In such a case it is no longer possible to obtain the additional capital goods out of expanding output. Instead, someone must actually curtail consumption so that borrowers' desires for supplies and equipment may be satisfied. Under these conditions, borrowers' spending can only raise the prices of capital goods and the prices of labor and materials out of which they are made. Consequently the costs of consumers' goods must rise, since their makers must compete for labor and materials with those who produce capital goods. Consumers whose incomes as yet are unchanged find themselves compelled to reduce the volume of their purchases in order to pay the higher prices of consumers' goods. These consumers, therefore, have been compelled to reduce their consumption so that the supply of capital goods can expand. Such unwilling reduction of consumption is called *forced saving*.

The same net results described above tend to occur when the banks lend to speculators in securities or lend to the government. During World War II the banks purchased government obligations to the amount of \$75.8 billions. This amount exceeded the growth of time deposits by about \$56 billions and caused a corresponding increase in the country's supply of checking accounts. This expansion of credit caused results similar to those which arise from the expansion of bank credit for business purposes. At first the added purchasing power received by the government from the banks was instrumental in bringing about a vast expansion in employment and production, and greatly aided our reaching the production goals necessary for the prosecution of the war. Later, as the possibilities for further expansion in production dimmed, the main effect of the continued credit expansion was to relieve the Treasury of the troublesome need of raising taxes to meet the desired expenditures. The new money so created was not allowed to raise prices, however. Instead, price controls were coupled with rationing to reduce consumer spending.

The distribution of capital through the action of commercial banks. Commercial banks, in making loans to business, play an

important part in the control over the distribution of existing capital. In self-protection it is necessary that bankers seek to make loans to the *best* borrowers, who are, of course, those who offer the best rates of interest compatible with good security and who are, therefore, firms or persons in position to utilize borrowed funds most profitably and effectively. Thus the banker is instrumental in getting capital into good hands. In this respect, however, the commercial banker is in a position no different from that of other lenders. But in making *short-term* loans he plays a somewhat different role. A very sizable part of commercial loans made by banks is intended to care for the short-term capital needs of business. Quite irrespective of changes in the total volume of commercial bank loans and deposits, the loanable funds are shifted from one borrower to another as needs arise. It is apparent that this shift is of immediate advantage to businessmen, who are thereby enabled to operate with a smaller volume of capital funds, either owned or borrowed at long term, since they can borrow short-term funds to care for seasonal and irregular needs. Thus, the commercial bank may be said to economize in the use of capital funds by enabling businessmen to dovetail their short-term capital needs. It does not necessarily follow, however, that this saving to the businessmen is advantageous to the economic system as a whole. To prove the existence of any general economy, it must be demonstrated either: (1) that the opportunity for short-term loans reduces the volume of idle capital goods; or (2) that it increases the efficiency in the distribution of capital funds and goods. At first glance it appears that the reduction in the volume of capital required by businessmen must bring a reduction in idle capital goods. But idle cash capital is not the same thing as idle capital goods. If businessmen were unable to obtain short-term loans, but instead carried more idle cash in off-season periods, they would still release short-term capital to others by restraining their purchases at times when others were in need. The liquid capital goods supply would still be mobile and free to change its direction at the summons of new buyers who had previously been holding off the market. We must, therefore, look elsewhere for the special advantage arising from the short-term lending of commercial banks.

The peculiar service performed by the commercial bank arises from its power to introduce *flexibility* into the capital equipment

of businessmen. It is a well-known fact that the economic system is in a constant state of flux. Demand for the products of different firms and industries is continuously varying, both with seasonal changes, which are partially predictable, and with the quite unpredictable changes in agricultural output, styles, popular tastes, and costs of production. In order for these changing demands to be met, capital funds must be shifted from industries with declining demand to those with an increasing demand. Such shifts, if predictable, might take place easily without resort to short-term loans. But even seasonal changes can by no means be accurately forecast. Variations in crops, temperatures, and length of seasons make for changing and uncertain seasonal requirements, while variations arising from the dynamic, growing nature of economic life introduce a large unpredictable element into the capital requirements of industries and individual firms.

Let us examine the situation that would arise in the face of these unpredictable changes in capital needs in a society not provided with short-term loan facilities. Let us assume that there has been a decline in the demand for the services of fruit canners, owing to a fruit shortage, and an increase in the demand for the services of dealers in and processors of grain, arising from a large grain crop. Under these circumstances, the canners will reduce their scale of operations, and in so doing increase their hoards of cash capital. With no access to short-term loans, the grain dealers and processors would be confronted with the task of expanding their purchases of grain, labor, and supplies within a short period of time, with only the cash capital which they estimated as sufficient for an ordinary and smaller supply. (We may properly assume that they would not be able to increase their cash capital to meet the emergency by borrowing in the long-term capital market.) The results could only be a disastrous depression of the market price of grain owing to causes quite remote from the long-run effects of consumers' demand. In addition to the effect on grain prices and market, the lack of a short-term loan market has its depressing effects arising from the fruit canners' position of increased cash hoarding. This hoarding withholds from the pockets of ordinary consumers cash funds that normally would be spent. The reduction in consumers' incomes would reduce by that amount the monetary demand for consumers' goods.

On the other hand, if commercial banks have loaned to the canners, the slump in canning will permit the canners to reduce their borrowings at the banks, which in turn can advance funds to the grain interests. As a result, there will be much less effect on the volume of funds in consumers' hands (since reduced spending by canners is offset by increases in the grain market). Short-term loans are essential to an easy, smooth adjustment to meet the assumed conditions. If there were no commercial banks with power to make short-term loans and to expand credit, business enterprise would suffer from a straitjacket of capital rigidity that would greatly impair its effectiveness.

Similarly the development of a new or growing industry, a common occurrence in a dynamic society, is greatly facilitated by the existence of an elastic short-term loan market provided by commercial banks. The commercial banks enable one industry to relinquish part of its capital funds and another to gain it with a minimum of disturbance. Even when a growing industry needs capital from the long-term market, the short-term loans of the commercial banks (whether or not they result in forced saving) hasten the process by advancing funds to security underwriters and others in the security market.

Some evils of commercial bank credit. We have considered the ease with which commercial banks can provide investment funds for business enterprise and other borrowers without waiting for the voluntary saving of income receivers. The genuine advantage of flexibility, which commercial bank loans give to economic society, cannot be denied. Yet this flexibility is obtained at a price. Indeed, in the minds of some the price is thought to be so high as to outweigh the advantages.

The price of bank credit flexibility and elasticity is found in the tendency for fluctuations in bank credit to go to extremes. In other words, bank credit sometimes seems to have a "perverse" elasticity. This perversity of bank credit relates to its part in business fluctuations or the business cycle. For example, during periods of recovery from depressions, it is essential that some expansion in credit occur in order that employment may increase and full utilization of our economic system may be realized. But there is no automatic brake applied to credit expansion when full employment is reached. Rather, the general optimism of businessmen and bankers, stimulated by improved profits, is likely to

lead to inflationary credit expansion, which is but a prelude to depression. Thus elastic bank credit may become a menace rather than a friend to economic well-being. Furthermore, bank credit that expands readily can also contract. Once the tide of prosperity has changed and business depression appears, businessmen reduce their borrowings and frightened bankers require liquidation of loans regardless of the wishes of the businessmen. Hence we find that the depression is aggravated by bank credit contraction. This tendency to overexpansion and overcontraction of money by the banking system has led some students to suggest that the flexibility associated with fractional reserves be abandoned altogether by the adoption of a 100 per cent reserve requirement for commercial banks.

Questions for Study

1. Can you name the main types of financial institutions and explain, in general, their economic function and significance?
2. Why can bankers actually get along with cash reserves which are but a fraction of their deposit liabilities?
3. Since both savings banks and commercial banks carry "fractional reserves" against deposits, in what significant ways do they differ?
4. Suppose that the commercial banks could have no loans or investments:
 - a) What would be the sources of their deposits?
 - b) How much profit would there be in the banking business?
 - c) What would be the possibilities for loan and deposit expansion?
5. What is meant by the expression that banks "monetize borrowers' debts?" When is this of advantage to the economy?
6. The "monetary function" of commercial banks involves the creation of "bank money" through loan and investment expansion:
 - a) How can the expansion of loans to business lead to capital goods accumulation when there is 1) less than full employment? 2) full employment?
 - b) How did the purchase of government securities by banks during the war affect the 1) money supply? 2) the level of output? 3) consumption?
 - c) How does this assist business to adjust to changing conditions?
 - d) How may this lead to perverse elasticity?
7. A savings bank receives \$10,000 on deposit, sets aside \$600 as cash reserve, and invests the remaining \$9,400 in an F.H.A. real estate mortgage:

- a) Has the supply of "effective money" been increased, decreased, or left unchanged by the transaction?
- b) Has the transaction helped in the accumulation of real capital goods in the form of a house?

6

The Individual Bank

IN CHAPTER 5 WE LOOKED BRIEFLY AT THE ECONOMIC FUNCTIONS OF banks with special attention to the commercial banking system. We must now turn our attention to the individual bank, its organization, and the make-up of its assets and liabilities.

Type of organization. Two types of business organizations are found among banks. In the first and more common type, the organizers of a bank obtain either a Federal or a state charter by conforming with the requirements of the general incorporation laws regulating the organization of banks. In the second type of organization, the organizers operate a private, unincorporated bank. The advantage of the latter type of bank has frequently been: (1) ease and simplicity of organization; (2) freedom from the capital requirements placed upon incorporated banks; and (3) freedom from supervision and regulation. Although there have been many exceptions, unregulated private banking has, by and large, proved unfortunate to the depositors and to the public, so that some measure of control has generally been set up. Such regulation varies from complete prohibition of any private banks to supervision over the private banking practices. The Banking Act of 1935 provides that no concern other than a regularly supervised bank may accept any deposits except those from its own employees unless it submits to an examination by the banking authority of the state, territory, or district in which it operates, and unless it publishes periodic reports.

Incorporation of banks not only benefits the public by subjecting banks to more strict regulation, but is also of obvious advantage in raising the necessary volume of capital. The organizers of banks have a choice between state and Federal charters.

Banks organized under the banking laws of a state are called *state banks*, and those organized under the Federal laws are called *national banks*. The type of charter preferred depends somewhat upon the kind of banking in which the organizers expect to engage. For example, if a nonstock mutual savings bank is to be organized, it must be done under state laws. Also, if a bank wishes to engage extensively in lending on real estate security, the opportunities are frequently greater under state than under Federal law. Likewise, capital requirements are sometimes less rigid under state than Federal law, and the supervision of state banks has frequently been less strict.

How the bank is organized. To obtain a charter to start a new bank, application must be made to the proper authority. Applications for national bank charters go to the Comptroller of the Currency, who is in charge of organizing and regulating national banks. For state charters, application must be made to the state banking department. Such applications for charters are now more than mere formalities, and properly so. At least five prospective shareholders must sign the application for a national bank charter. They should not be "promoters" in the professional sense of the word, for to receive favorable consideration the application must reflect a *local* demand for the banking accommodation that the proposed bank will provide.

Before approval is granted, the proposed organization is scrutinized to make certain that the organizers are competent and trustworthy. Moreover, the existing banking facilities and practices must be taken into account in order to evaluate the community need and the probability of success of the proposed bank. Today the organizers will desire that the bank become a member of the Federal Deposit Insurance System, and therefore the proposed bank must be approved for deposit insurance by the Federal Deposit Insurance Corporation.

When approval to organize is received, the stockholders' subscriptions to the bank stock must be obtained and the capital paid in. Stockholders in national banks must pay in 50 per cent of their subscription in cash before the bank can begin operations. The remainder must be paid in monthly installments amounting to at least 10 per cent of the capital. A new national bank must also subscribe to stock in the Federal reserve bank of its district to the amount of 6 per cent of its own capital and surplus and pay

in cash 50 per cent of such subscription. This is necessary in order that the national bank may fulfill its requirement of membership in the Federal Reserve System. After all requirements have been met, the charter or the certificate of authority to commence business is issued.

The bank's capital. The capital invested by the bank's stockholders is a kind of guaranty fund protecting depositors from losses arising from bad loans and investments. The invested capital, or capital fund, of a bank consists of the capital stock, surplus, and undivided profits. So long as the bank's loans and investments do not shrink by an amount greater than the invested capital, depositors cannot lose. The invested capital, therefore, must be adequate to protect depositors against a depreciation of the bank's assets arising from business depression, errors of judgment by the banker, or any other cause.

What constitutes an adequate amount of invested capital is difficult to determine. On the face of things it would appear that adequacy of capital should be measured in relation to the volume of deposits. Thus the proper criterion would be the capital-deposit ratio.¹ As a matter of fact, supervisory authorities have generally emphasized this ratio as a proper guide to bank regulation. During the 1930's the Federal Deposit Insurance Corporation attempted to establish a rule that insured banks should have a ratio of net sound capital to deposit liabilities of at least 1:10. Thirteen states also established statutory requirements for minimum capital-deposit ratios at 1:10.¹ Before 1929, few banks would have had any trouble conforming to this rule. At present, however, the case is somewhat different. Bank deposits have increased tremendously as a result of the war. Even though the capital of insured commercial banks increased by over \$3.5 billions between December 31, 1940 and December 31, 1948, the resulting capital-deposit ratio averaged only about 7.3 per cent.

Now clearly there is nothing sacred about the 1:10 ratio. Like many rules of thumb, it seems to have been adopted because of

¹ The Indiana law permits the Department of Financial Institutions to require an increase in capital or a decrease in deposits if the net sound capital for the preceding year is less than 10 per cent of the bank's average daily deposits. Such action may not be taken if the bank's cash plus United States Government securities (direct and guaranteed) amount to 50 per cent of the total deposits. Cf. Robinson, R. I., "Capital-Deposit Ratio in Banking Supervision," *Journal of Political Economy*, February 1941.

convenience in calculation. There has developed, therefore, considerable opposition to the blind adherence to the rule. It is quite properly held that the size of necessary capital funds is more closely related to the type of assets than to the volume of deposits. Were a bank to carry all its assets in cash, there would obviously be no need for capital to protect depositors. Likewise, when a

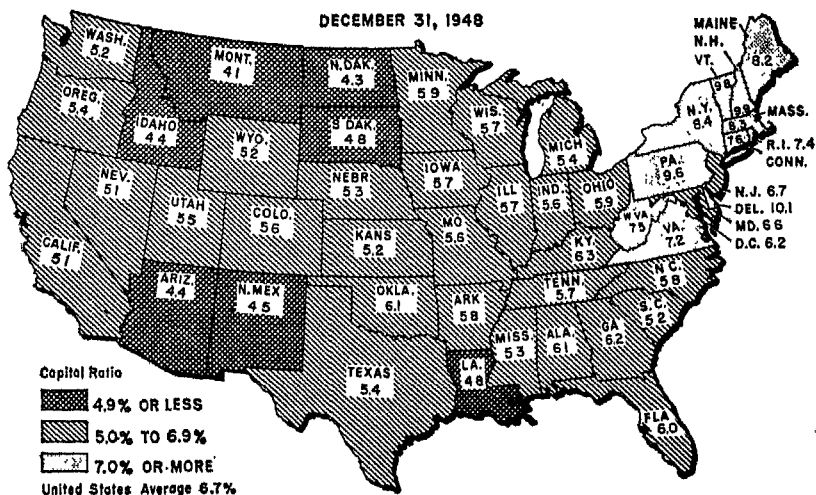


CHART 2. RATIOS OF TOTAL CAPITAL ACCOUNTS TO TOTAL ASSETS
OF INSURED COMMERCIAL BANKS.

bank's earning assets consist mainly of government securities, there is need for but little owner's equity to provide adequate protection to depositors. There have been proposals that instead of a fixed capital-deposit ratio rule, a standard be set up based upon the class of assets held by the banks. Thus, against deposits represented by cash and highly liquid and safe bonds or open-market paper, the required capital ratio would be lower than against deposits backed by more hazardous and speculative assets. For example, on December 31, 1948, the total loans and investments of insured commercial banks amounted to \$112.3 billions. Of this total, \$61.4 billions were United States Government obligations. If one deducts these Government obligations from the total, on the assumption that they involve no credit risk, there remains but \$50.9 billions of "risk" assets. The ratio of invested capital of \$10.1 billions to the \$50.9 billions of risk assets is 19.8 per cent or almost 1:5.

Capital requirements for organization. National banks are not required by law to maintain any particular capital-deposit ratio. The law specifies the capital required for organizing new banks only. Thus, to establish national banks in cities of not over 6,000 inhabitants, capital requirements are \$50,000; in cities of from 6,000 to 50,000 inhabitants, capital requirements are \$100,000; and in cities of over 50,000, capital requirements are \$200,000, save that in outlying districts national banks may be organized with \$100,000 capital if state banks are permitted to do so. State laws contain similar provisions.²

In addition to the minimum capital required of new banks, national banks are now required to have a paid-in surplus equal to 20 per cent of their capital before beginning business. Further, national banks must add not less than one-tenth of their net profits to surplus until the latter is equal to the common stock.

Bank stock. Before 1933 the owners' capital in banks was obtained exclusively by the sale of common stock. Such stock was subject to double liability in the case of national banks, a provision generally applicable to state banks as well. This provision meant that in case of failure the stockholders might be assessed an amount equal to the par value of their stock to help reimburse the depositors. The double liability provision did not prove to be of any great benefit to depositors of closed banks. When occasion arose, therefore, in 1933, requiring the sale of a large amount of capital stock to rehabilitate banks which were in trouble, it seemed advisable to abolish double liability in order to enhance the attractiveness of the new stock issues. Consequently the Emergency Banking Act of 1933 provided that new stock sold by national banks should be free from double liability. In 1935 the national banking law was amended further to enable national banks to terminate double liability on all stock on July 1, 1937 or later, after publication of six months' notice. The double liability requirement on state banks was written into the constitutions of many states, and its removal, consequently, had to wait upon constitutional amendment. To reduce this disadvantage of state banks, Congress, on May 25, 1938, amended Section 12B of the Federal Reserve Act to permit the Federal Deposit Insurance

² For a compilation of State laws governing minimum capital requirements for state banks and trust companies, see the *Federal Reserve Bulletin*, December 1940, pp. 1267-1274.

Corporation to waive any claim which it might have for double liability against the stockholders of failed state banks where double liability has not already been abolished.

Banking laws generally provide that in case a bank suffers losses great enough to reduce the stockholders' equity below the par value of the capital stock, the stockholders are to be assessed an amount sufficient to repair the deficiency. Payment of such assessments is a necessary price for the privilege of continuing the operation of the bank.

After the banking holiday of March 1933, many banks that reopened were in a weak condition. To insure soundness in the banking structure the examiners ordered banks to write off as losses all unsound loans and investments. As a result there was an impairment of the capital of many banks since their net sound capital was less than their outstanding capital stock. Although in such a case stockholders were technically liable for an assessment to correct the impairment, at this time the banks were permitted to "recapitalize" or reorganize their capital structure, reducing the par value of the common stock to a figure corresponding to the net worth after losses were taken. This reorganization left some banks with inadequate capital. Because additional common stock was difficult to sell to the general public at that time, national banks and some state banks were permitted to issue and sell preferred stock. Such stock was free from assessment for capital impairment and also free from double liability. Some was sold to old stockholders and to the general public, but mainly it was bought by the Reconstruction Finance Corporation, a Government-owned corporation created to assist distressed financial and business concerns. Because some state banks were not legally permitted to issue preferred stock, they were encouraged to sell capital notes and debentures to the RFC to rehabilitate their capital structure. In 1935, the investment of the RFC in preferred stock, capital notes, and debentures of insured banks reached a peak of about \$1,000,000,000 but has since declined to a negligible figure as banks used wartime earnings to retire such issues.

MANAGEMENT AND CONTROL

Before 1933, banks issued only common stock and the control therefore rested with the common stockholders who elected the directors. After 1933, the appearance of preferred stock modified

the absolute control by the common stockholders, for preferred stockholders ordinarily share in the voting power. Banks that sold preferred stock to the RFC while reorganizing their capital structure frequently were required to give preferred stock *as a class* twice the voting power of common stock *as a class* should the preferred stock be in arrears in dividend payments.

The bank directors. The boards of directors of national banks may consist of not less than five nor more than twenty-five directors. In their election stockholders have the privilege of cumulative voting. The directors must be citizens of the United States and three-fourths of the board members must have resided in the State, Territory, or District, or within 50 miles of the bank's head office, for at least one year before election, and must continue such residence during their term of office. They are sworn to administer the affairs of the bank diligently and honestly.

Bank directors are chosen both for their business experience and skill and for their value in attracting important customers' accounts. The intelligent businessman, holding a responsible position in trade or industry, makes a valuable member of a bank's board of directors. His knowledge and experience enable him to contribute wise counsel to the bank management. Furthermore, his position as director may be expected to attract the accounts of other businessmen.

It sometimes happens, however, that directors, chosen largely for their prestige value, fail to understand clearly the nature of the responsibilities they have assumed. In such cases their attention to the bank's affairs may be purely perfunctory, leaving the actual control of bank policies and operations in the hands of the officers. Such an attitude may matter little when officers are honest and competent and times are good. But sometimes incompetency and dishonesty, preventable by diligence on the part of the directors, lead the bank to ruin. Even honest and competent officers need and are entitled to receive the wise counsel of the directors. Directors who fail to take an active and constructive part in determination of the banking policies are failing in their duties and may incur a serious penalty for such negligence. The law requires that directors exercise ordinary care and prudence in the administration of the bank's affairs. Although they may entrust the actual operations to duly authorized officers, they must exercise reasonable supervision and cannot hide behind the shield

of ignorance where ignorance is the result of gross inattention. Where the courts find that a director's neglect has been responsible for the bank's loss, they hold him liable.

The directors of member banks may be removed from office by the Board of Governors of the Federal Reserve System on proof that they have been guilty of violation of the banking laws or have knowingly permitted the continuance of unsound or unsafe practices by the officers.

Public supervision and bank management. Bank managers are not entirely free to determine their policies as they may choose. Banks are among the most regulated of our economic institutions and the banker's policies must be set up within the framework of the regulations imposed by public authority. These regulations are primarily aimed at safeguarding the banks and maintaining a sound banking system. The justification for such regulations has been well stated by the Board of Governors of the Federal Reserve System.³

Banking is a business vested with a public interest. The current financial needs of commerce, industry, and agriculture are met largely through the individual actions of the 15,000 separate banks in operation in this country. The volume of their loans and investments has a direct relationship to the volume of business activity, and the deposits created by these loans and investments, as they pass from hand to hand, are the medium through which the bulk of the nation's payments are made.

Successful operation of our banking institutions is, therefore, necessary to the orderly functioning of the nation's business. It is not merely the concern of those who have invested their money in the banking business, nor merely of those who have entrusted their deposits to the banks. It is also a matter of public concern, both because of the importance of safeguarding deposits and because of the part that the banks play in maintaining the flow of goods and services through the channels of production and distribution, from the farm, the forest, and the mine to the ultimate consumer. Interference with the orderly functioning of banks, whether through bank failures or otherwise, results in the elimination of an habitual source of financial assistance on which the bank's customers have relied, and in the loss or tying up of deposits belonging to the depositors who have made their business and personal plans in the assurance that they have this money at their disposal.

³ "Problems of Banking and Banking Supervision," from the *Annual Report of the Board of Governors of the Federal Reserve System*, 1938, p. 1.

The foundation for bank regulation is found in the banking laws under which the banks operate. National banks must conform to both the National Banking Act and the provisions of the Federal Reserve Act. State banks similarly are controlled by the laws of their respective states, and when members of the Federal Reserve System, by the Federal Reserve Act also. We shall have occasion later in our study to take note of these laws as they apply to particular banking operations. Out of these laws that regulate banking there necessarily arise supervisory boards and examiners charged with the duty of enforcing compliance. It follows that these regulatory and supervisory bodies play a significant part in bank management. They impose rules of banking conduct consistent with the banking laws and by examination and reports attempt to compel observance of these rules. Unhappily for the banker, there is a good deal of duplication in the efforts of the banking supervisors, and individual banks often find themselves making reports to and being examined by two or more supervisory authorities.

THE BANK STATEMENT

It may almost be said that a bank is a bookkeeping institution that shifts paper claims about among various individuals or business houses. It receives, as deposits, claims against other banks. It makes loans through mere book entries. The number of employees engaged in keeping the accounts and signing orders may exceed the number engaged in handling various forms of money. Consequently, an understanding of a bank's operations may perhaps best be derived by beginning with an analysis of the results of these bookkeeping activities in the form of a statement of the bank's resources and liabilities. Such a statement gives a cross-section view of the bank's affairs as they exist at the time the statement is drawn up and thus affords the student of banking a glimpse of the banking function.

Bank statements, as such, are common enough to excite little interest in the mind of the man in the street. Published statements of national banks appear regularly in the home-town newspapers at the date when the Comptroller of the Currency calls for reports. These reports must be made at least three times a year or oftener, as the Comptroller may require. Similar reports appear for the state banks. In spite of the relative frequency of

these published reports, they are usually of slight value to bank customers who are anxious to learn something of the affairs of the bank with which they deal. This is true for several reasons. First, the average person is not conversant enough with banks and banking affairs to understand the significance of the items appearing in the published report. Moreover, many banks combine the items making up their resources and liabilities in such a way that even an expert would be unable to discover the real position of the bank. Finally, the reality of the picture of the bank's affairs given by the bank statement depends upon the accuracy of the

Condensed Report of Condition of	
The Purdue State Bank	
WEST LAFAYETTE, INDIANA	
at the close of business June 30, 1949	
RESOURCES	
Cash on hand, and on deposit with other banks	\$ 874,787.34
U. S. Bonds, Treasury Notes and Bonds guaranteed by U. S. Government	3,384,806.17
Other Bonds and Securities	41,432.22
Loans and Discounts	1,704,714.98
Banking House, Furniture and Fixtures.	15,500.00
	<u>\$6,021,210.71</u>
LIABILITIES	
Capital Stock	\$ 100,000.00
Surplus	125,000.00
Undivided Profits	67,590.48
Deposits	5,725,049.23
Other Liabilities	3,571.00
	<u>\$6,021,210.71</u>
MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION	

accountant's estimate of the value of the bank's resources and the completeness of his enumeration of its liabilities. Banks sometimes operate for a number of years without writing off their losses. When this happens, the resources of the bank appear larger than they actually are, and the bank may retain the confidence of the public even when the real conditions do not justify it. Some conservative bankers conceal certain assets such as real property owned by the bank. Some years ago, a prominent Chicago bank evaluated its bank building, containing much valuable office space and

located at an important corner of the Loop, at the sum of one dollar.

Although the bank statement may often reveal less of the true condition of the bank publishing it than one might desire, it is nevertheless a valuable device for giving an idea of the manner in which banks operate. The bank statement on page 94 illustrates the usual form of published statement, which gives the outsider little clue to the details but states its facts in broadest outline:

The detailed statement. The statement below, published by the Federal Deposit Insurance Corporation, gives more details of the operations of banks. Such detailed statements as these are not published for individual banks.

ASSETS AND LIABILITIES OF OPERATING
INSURED COMMERCIAL BANKS, JUNE 30, 1949

(Amounts in thousands of dollars)

Assets

Cash, balances with other banks, cash collection items—total ..	\$ 33,731,946
Currency and Coin	2,038,588
Reserve with Federal Reserve Banks (member banks)	17,806,625
Demand balances with banks in the U.S. (except private banks and American branches of foreign banks)	7,748,380
Other balances with banks in the U.S.	37,400
Balances with banks in foreign countries	18,359
Cash items in process of collection	6,082,594
<hr/>	
Obligations of the U.S. Government, direct and guaranteed ...	61,988,221
Other securities—total	9,254,926
Obligations of states and political subdivisions	5,765,550
Other bonds, notes and debentures	3,181,481
Corporate stocks:	
Federal Reserve Banks	205,418
Other corporate stocks	102,477
<hr/>	
Total securities	71,243,147
Loans and discounts, net—total	40,535,377
Valuation reserves	453,930
Loans and discounts, gross—total	40,989,307
<hr/>	
Total loans and securities	111,778,524
<hr/>	
Bank premises, furniture and fixtures, and other real estate ...	1,117,896
<hr/>	
Miscellaneous assets—total	588,001
Customers' liability on acceptances outstanding	135,451

THE INDIVIDUAL BANK

TABLES OF ASSETS AND LIABILITIES
(cont'd.)

Income accrued but not collected	245,608
Prepaid expenses	30,444
Other assets	176,498
Total assets	\$147,216,367
<i>Liabilities</i>	
Deposits of individuals, partnerships, and corporations—total	\$111,598,463
Demand	77,020,805
Time	34,577,658
Certified and officers' checks, cash letters of credit and travelers' checks outstanding, and amounts due Federal Reserve Banks	2,352,568
Government deposits total	10,886,877
U.S. Government—demand	2,139,211
U.S. Government—time	157,260
Postal savings	5,946
States and political subdivisions—demand	7,341,464
States and political subdivisions—time	1,242,996
Interbank deposits total	10,578,444
Banks in the United States	9,086,911
Banks in foreign countries	1,491,533
Total deposits	135,416,352
Miscellaneous liabilities—total	1,345,851
Bills payable and rediscounts	26,605
Acceptances outstanding	150,322
Dividends declared but not yet paid	55,122
Interest collected but not earned	209,420
Expenses accrued and unpaid	365,857
Other liabilities	538,525
Total liabilities (excluding capital accounts)	136,762,203
<i>Capital Accounts</i>	
Total capital accounts	\$ 10,454,164
Capital stock, notes, and debentures	3,368,129
Surplus	4,552,144
Undivided profits	2,010,341
Reserves	523,550
Total liabilities and capital accounts	\$147,216,367

Definition of bank assets. Although some of the entries appearing in the above statement need no explanation, others deserve some special attention to make their meaning clear.

1. *Currency and coin* represent the till money carried by banks to meet customers' immediate cash needs.

2. *Reserve with the Federal Reserve Banks* represents deposits of member banks with the Federal Reserve Banks and constitutes the reserves that satisfy the legal requirements.

3. *Demand balances with banks in the United States (except private banks and American branches of foreign banks)* comprise working balances or deposits carried by banks with each other. Such "bankers' balances" or "due from other banks" items are carried as deposits with city correspondents. In general, small banks carry deposits with city correspondents in nearby larger cities and in New York. These balances furnish convenient means for facilitating the collection of checks drawn on banks in distant areas. The banks holding these reserve deposits often undertake to collect checks drawn on banks in their districts and credit the amounts realized to the depositing bank's account. Likewise, when checks drawn on the local bank appear in distant cities and are sent home for payment, the local bank may remit amounts due by drawing drafts on its account in the city correspondent bank. Thus we see these balances perform the twofold function of acting as reserve funds and of providing a means for handling the collection of checks.

4. *Other balances with banks in the United States* are mainly time deposits and some deposits in private banks.

5. *Balances with banks in foreign countries* are funds held abroad mainly for the purpose of providing foreign exchange.

6. *Cash items in process of collection* include the following three groups:

(a) "Exchanges for the clearinghouse," consisting of checks deposited or cashed at the bank during the course of the day and drawn on banks located in the city or immediately surrounding territory and affiliated with the local clearinghouse. These checks will be presented through the clearinghouse to the banks on which they are drawn at the next clearing period.

(b) "Collections in transit," consisting of checks, drafts, and other items payable in another city, for which the bank has

given the depositor credit but which are not yet collected. When these checks and drafts are acquired, they are sent to the transit department where proper disposal is made of them for collection. They may be sent to the Federal Reserve Bank of the district if the bank is a member or a clearing nonmember; they may be sent to a city correspondent; or they may be sent directly to the bank on which they are drawn for payment.

(c) "Checks and other cash items" consist of local checks and drafts drawn on banks that are not members of the local clearinghouse. Miscellaneous cash items such as bond coupons for which depositors get immediate credit may also be included.

7. *Obligations of the United States Government, direct and guaranteed*, include:

(a) Treasury bills, usually issued with maturities of three months, although sometimes longer, sold on a discount basis; *i.e.*, they carry no interest.

(b) Treasury certificates of indebtedness, with maturities of from nine to twelve months, issued on an interest-bearing basis.

(c) Treasury notes with original maturities of from three to five years.

(d) Long-term Treasury bonds.

(e) Government guaranteed debentures of the FHA.

8. *Other securities* include:

(a) State, county, and municipal bonds, representing conservative investments that are somewhat less liquid than U.S. Government issues.

(b) Other bonds and securities consisting of public service corporation bonds; industrial corporation bonds; and foreign bonds.

(c) Stock in the Federal Reserve Banks which member banks must own as a qualification for membership in the Federal Reserve System.

(d) Other corporate stocks held for investment where the law permits.

9. *Loans and discounts*, gross total, include all kinds of promissory notes and bills of exchange held by the bank. When interest is to be paid at maturity the instrument is referred to as a

"loan"; when no interest is called for the instrument is "discounted" by the bank; *i.e.*, the bank gives the borrower the amount of the note minus the interest and receives the whole face amount at maturity. Included among loans are "overdrafts," which are unsecured advances to depositors who overdraw their accounts.

"Valuation reserves" include deductions from gross loans and discounts allowed for income tax purposes and constitute a reserve against losses on loans and discounts. The *net* loans and discounts only are used for computing the total assets of the bank.

10. *Bank premises, furniture and fixtures, and other real estate* include:

- (a) Property owned by the bank and used in the banking business.
- (b) Real estate owned by the bank not used in the business. Such property generally has been taken by the bank on defaulted mortgages and is being carried temporarily by the bank until it can be disposed of on favorable terms.

11. Under miscellaneous assets, *Customers' liability on acceptances outstanding* refers to the liability of customers to reimburse the bank when the latter has accepted time drafts drawn against it for the benefit of the customer. *Income accrued but not collected* includes interest already earned on unmatured loans and accrued bond interest not yet payable.

The meaning of bank liabilities. Bank liabilities fall into three main divisions: (1) deposits and related items; (2) miscellaneous liabilities; and (3) capital accounts.

1. *Deposits of individuals, partnerships, and corporations* constitute the largest class of deposits of commercial banks. They are subdivided into:

- (a) Demand deposits or checking accounts, which constitute the bulk of the effective money supply.
- (b) Time deposits, which are either savings accounts or time certificates.

2. *Certified checks* outstanding arise from the request of depositors that checks drawn be certified by the bank. Granting this request binds the bank and adds to the acceptability of the check since the bank cannot afterward refuse to honor the check because of stop-payment orders, forgery, or insufficient funds. On certi-

ying the check the bank protects itself by immediately deducting the amount of the check from the depositor's account. *Cashier's checks* are checks drawn on the bank by the cashier and issued to customers desiring an acceptable form of draft to make payments where personal checks cannot be used. Also such checks are drawn and issued in payment of debts owed by the bank. This whole class of liabilities is often lumped in with demand deposits.

3. *Government deposits* in banks are simply funds accumulated out of taxes or borrowings and being held for disbursement. An exception are the postal savings funds received by the post office department and deposited with the banks. Government deposits are normally protected by special collateral handed over by the bank to act as security or else some preference may be given to insure the safety of the deposits.

4. Interbank deposits are mainly working balances carried by "country" banks with their city correspondents. They also include funds belonging to foreign banks placed on deposit for use in making settlements for international transactions.

5. *Miscellaneous liabilities* include a number of different items.

(a) *Bills payable and rediscounts* combined represent the volume of funds obtained by the bank through borrowing or sale of commercial paper to some other bank or the Federal Reserve Bank. Rediscounts are included here, rather than deducted from the loan assets because rediscounted paper must be indorsed by the bank and its ultimate payment guaranteed to the purchaser.

(b) *Acceptances outstanding* are liabilities arising from the acceptance of time drafts for the benefit of the bank's customer.

(c) *Income collected but not earned* includes discounts taken on paper that does not bear interest to be paid at maturity.

(d) *Other liabilities* include reserves of various kinds representing deductions made from the total assets before the calculation of the stockholders' equity or the capital account. They include:

- (1) Reserves for taxes accruing before tax-paying time;
- (2) Reserves for interest accruing on deposits; and

- (3) Reserves for depreciation of buildings, furniture, and fixtures.

The *capital account* constitutes the stockholders' contribution or interest in the bank. Only in this sense is it a "liability." It is obtained by deducting from the total assets all the liabilities to outsiders including the sundry reserve accounts enumerated above. The remainder belongs to the stockholders. It is common practice to set aside from this total remainder a *reserve* for unforeseeable contingencies that may cause a shrinkage in the value of the bank's assets. This practice permits the bank to absorb losses without disturbance to the more formal items in the capital account. What remains of the capital account after reserves for contingencies have been set aside is divided into three categories. First is the *capital stock*, which is carried at its face or par value. What remains is *surplus* and *undivided profits*. As the current operations return profits to the bank, they are credited to the undivided profits account, from which will be paid all dividends. Part of the profits remaining after dividends are paid are then transferred from undivided profits to surplus, as a means of serving notice upon dividend-hungry stockholders, as well as the general public, that such amounts are to remain as permanent additions to the stockholders' investment in the bank.

Questions for Study

1. Can you give any explanation for the preference for state or national charters when starting a bank?
2. What requirements exist to aid in insuring that newly formed banks are needed and will be properly operated?
3. Why is the capital-deposit ratio less significant than the capital-risk asset ratio? Why do the national banking laws give inadequate attention to the need for invested capital?
4. What is meant by a) double liability of bank stock? b) assessment to correct capital impairment?
5. Why are banks subject to public supervision?
6. Arrange the following items to form a bank balance sheet: (Total resources amount to \$4,237,279.) Reserves for contingencies, et. \$10,617. Deposits of other banks \$342,919. Miscellaneous assets \$18,112. Demand deposits \$2,275,801. Overdrafts \$650. U.S. securities \$1,763,401. Cash items in process of collection \$227,279. Time deposits \$912,108. Certified checks outstanding \$104,861.

Government deposits \$238,821. Bank premises, furniture and fixtures \$32,772. Loans and discounts \$1,194,100. Other securities \$220,084. Deposits in other banks \$120,978. Surplus \$149,639. Reserves with the Federal Reserve Bank \$610,884. Undivided profits \$68,837. Miscellaneous liabilities \$43,676. Currency and coin \$49,019. Capital stock \$90,000.

7. Show the amount of immediate changes in the appropriate items that would arise from each of the following transactions:
- a) The bank lends \$1,000 for 6 months at 4 per cent interest. The borrower takes one half in cash and the remainder on his checking account.
 - b) The bank buys, on a discount basis, \$20,000 worth of open market paper having 4 months to run to maturity. The discount rate is 1.5 per cent per annum and payment is made by draft on the bank's Chicago correspondent.
 - c) The bank buys, through its Chicago correspondent, \$100,000 par value of $2\frac{1}{2}$ per cent U.S. bonds at 103.
 - d) The bank receives on deposit: 1) \$1,000 in out-of-town checks, 2) \$20,000 in checks on local banks, 3) \$2,500 in checks on itself, and 4) \$4,000 in cash.
 - e) Customer B, with a balance of \$360, drew a check for \$400 and gave it to Customer C who deposited it to his account in the bank.
 - f) The bank examiner ordered the write-off of a \$5,000 note.
 - g) The directors ordered a 4 per cent dividend paid on the capital stock. This payment was made in cashier's checks.

The Banker and Credit Instruments

The nature of credit. In a general sense, credit is based on confidence in the debtor's ability to make a money payment at some future time. Its existence involves a creditor, who extends credit, and the debtor to whom the credit is extended. Basically, the reason for credit is found in the need or desire of individuals and business firms to obtain economic goods ahead of their ability or desire to pay. Merchants, therefore, are called upon to extend trade credit to buyers, whereas banks and other lending institutions extend credit to borrowers who wish to obtain cash with which to make purchases.

Credit instruments. The evidences of credit extension take various forms. Trade credit often is in the form of an open account, which arises from the seller's "charging" the amount of the purchase against the buyer on his books. Such sales carry with them an agreement for payment within a certain number of days. The open account is a form of credit instrument in that it may be held by the seller himself or it may be assigned by him to someone else. It is the most important form of trade credit used by American businessmen. But the buyer may give the seller a promissory note, or he may accept (sign) a bill of exchange drawn on him by the seller for the amount of the purchase price. In such a case the trade credit results in a more readily recognizable form of credit instrument.

Individuals and firms may, however, wish to take cash discounts, or they may prefer to buy from sellers who are unable or unwilling to extend trade credit on favorable terms. The would-be buyers then may apply to a bank (or other lender) for a money loan. Bankers specialize in judging the credit standing of borrowers and

therefore can take credit instruments in the form of borrowers' notes and give out cash in return. Because commercial banks can operate on fractional cash reserves, they are able to trade their own demand deposits (demand promises to pay cash) for the borrowers' notes. In this manner a credit instrument of inferior status is exchanged for a superior and more acceptable one in the form of bank credit. The banker, in other words, has "monetized" the borrowers' credit since, it will be remembered, checking accounts in banks are used as a form of money.

The bank and credit instruments. The banker's stock in trade consists largely of *negotiable* credit instruments. The deposits he receives consist mainly of checks, drafts, and paper currency, all of which are negotiable in form. Only specie and minor coin are not negotiable in form, yet they too have some of the characteristics of bearer demand negotiable credit instruments.

When the banker receives a deposit, he may create a negotiable credit instrument directly if he gives the depositor a negotiable certificate of deposit, or indirectly if he enters the amount on the depositor's pass book so as to entitle him to draw checks. Checking accounts, used as substitutes for currency, are transferrable by the use of another form of negotiable credit instrument, the bank check. Central banks, in contrast to ordinary commercial banks, create credit instruments in yet another form. Not only can they create deposit credit but they can also create negotiable instruments in the form of bank notes. These notes have the advantage of being directly transferrable from person to person without the necessity of writing checks. Moreover, because of their form and appearance, they are readily accepted without regard to the credit standing and identity of the person offering them. In modern banking systems they are legal tender.

The promissory notes and bills of exchange that banks take from borrowers, and the securities they purchase, are in the form of negotiable credit instruments. It is evident, therefore, that the rules governing credit instruments, and particularly those instruments which are negotiable in form, are of great practical importance both to banks and to those who deal with them. We shall examine into the nature of negotiable credit instruments and the rules governing them in some detail.

What is a negotiable credit instrument? To be negotiable, the credit instrument must be in tangible form that can be physically

transferred from one holder to another. Hence the requirement that it must be a *written* promise or order to pay money signed by the person who originates it. Thus, a charge account cannot be a negotiable instrument. Furthermore, it must contain "words of negotiability" that indicate clearly the intent of the parties that it be negotiable. Generally words of negotiability are "pay to the order of" or "pay to bearer" although the word "negotiable" if written on it is sufficient. Also a negotiable instrument must be payable in a "certain sum of money." A promissory note promising to deliver grain or other commodities would not qualify as a negotiable instrument. In addition, the promise or the order to pay money must be clear and without conditions. For instance, a promise to pay \$100 on the election of a certain man to public office would be conditioned upon the outcome of the election, and so could not be a negotiable instrument.

Negotiable instruments fall naturally into two classes. The first is the negotiable promissory note, which is simply the *promise* of the maker of the note to pay a sum of money to the order of another on demand or at a certain future date. The second type of negotiable instrument is the bill of exchange. The bill of exchange is in the form of an *order* to pay money addressed to (drawn on) a debtor by a creditor. For example, a trade bill is an order drawn by the seller of merchandise upon the buyer. If the buyer is to be given credit, the bill will be payable at the proper future date. The seller will, in that case, present the bill of exchange to the buyer, who "accepts" by putting his name on it. This signature binds the acceptor to pay the bill of exchange and makes the bill a *trade acceptance*. Under certain circumstances time drafts or bills of exchange are drawn against banks, which "accept," by signing, and thus create *bankers' acceptances*.

Finally a very common form of bill of exchange exists in the ordinary bank check. Here the depositor, a creditor of the bank, orders payment to some specified person or payee. Also, banks themselves draw bills of exchange against deposits carried with their city correspondents. These bills are commonly referred to as "drafts." Except for bank checks and drafts, the use of bills of exchange in American domestic business is rather limited. The trade bill does not have widespread use in settling domestic transactions because of the prevalence of the practice of extending credit by selling on open account. In foreign trade, on the other

hand, bills of exchange are very commonly drawn by sellers on buyers, or on the buyers' banks, as a means of obtaining payment for goods and services sold abroad.

Importance of negotiability. What difference does it make whether or not a credit instrument is negotiable? The answer is simply this: A person who receives a *nonnegotiable* credit instrument by purchase or assignment, obtains, like any ordinary assignee, only those rights to collect which the previous owner or the assignor had. If the title of the transferor of a *nonnegotiable* instrument was faulty in any particular, the title received by the transferee or assignee is equally faulty. For example, if the payee (the person named to receive payment) of a *nonnegotiable* instrument cannot enforce it because he obtained it from the maker by fraud, the person who receives the instrument, or any subsequent holder, cannot collect it for the same reason. This resembles the effect of the assignment of an open account which the assignor cannot collect because of some defense. The assignee, too, cannot collect.

But if a *negotiable* credit instrument is taken by a person who is a *holder in due course*, it can often be collected even though the original payee or holder could not collect it. This superior position of the holder in due course arises apparently from the fact that the courts are eager to facilitate the use of credit instruments. Their acceptability is considerably enhanced by the protection afforded the holder in due course.

A holder in due course is one who has taken an instrument: (1) that is complete and regular upon its face; (2) before it became overdue and without notice of any previous dishonor; (3) in good faith and for value; and (4) with no notice of any infirmity in the instrument or defect in the title of the person negotiating it.

Advantages of a holder in due course. Let us see the nature of the advantage that the law gives the innocent holder in due course. The law classifies defenses against the payment of credit instruments into two types. The first type are called *absolute* defenses because, when proved, they defeat *any* holder's attempt to enforce payment from the person nominally obligated to pay. Absolute defenses defeat even the claims of that specially favored person, the holder, in due course. Such defenses include: (1) forgery of the maker's name or forgery of the payee's endorsement of an instrument payable to his order; (2) lack of legal capacity of

the maker or obligor to contract, whether because of infancy (under 21 years) or insanity; (3) lack of delivery of an incompleated instrument. In the last case, should a person sign a note or check and lose it before completely filling in the blanks (date, payee, or amount) a finder cannot complete the instrument and make it enforceable against the one who signed it.

Of more importance to us here, however, are the advantages accruing to the holder in due course because of his freedom from certain types of defenses. These defenses are called *personal* because they apply only to persons who are immediate parties to the instrument and who, therefore, are aware of the objections or defenses to its payment. Such personal defenses include: (1) fraud; (2) lack of delivery; (3) lack of consideration; (4) wrongful filling out of an incompleated instrument; (5) conditional delivery when the condition has not been fulfilled; (6) illegality; and (7) duress. For example, if a seller of merchandise misrepresents the quality and so induces the buyer to give him a negotiable promissory note, the fraud practiced on the buyer is a defense against paying the seller. But, because fraud is only a personal defense, if the seller negotiates the note to the bank, which takes it in good faith for value, unaware of the fraud, the bank *can* collect. Similarly, when the maker of a promissory note has not yet intentionally delivered it to the payee, the latter could not collect it even though he found it or otherwise improperly came into possession. An innocent holder, however, could collect. Again, the obligor on a negotiable instrument need not pay the person to whom he gave it, should it later appear that he received nothing of value in return; *i.e.*, there was lack of consideration. But the holder in due course can collect if the instrument comes into his hands. Finally, should a negotiable instrument be delivered to the payee with date, amount, or payee's name left blank, the payee is authorized to fill in the blanks *correctly*. Should he, for example, fill in an amount in excess of what is correct, he cannot collect. But the holder in due course can collect if it is negotiated to him.

Material alteration. A material alteration of a negotiable instrument may consist of changes in: (1) the date; (2) the sum payable; (3) the time or place of payment; (4) the number or the relations of the parties; and (5) the medium or currency in which payment is to be made. It may also consist of the addition of a

place of payment where none is specified, or any other change altering the effect of the instrument.

Probably material alteration most commonly takes the form of raising the amount to be paid. When this or any other material alteration is made by a person holding the instrument, such a holder cannot collect anything and so far as he is concerned, the instrument is discharged. But a special concession is made to an innocent holder to whom it may be negotiated, for he may collect it according to its terms *before* alteration.

Transfer of title. There are various ways in which a holder in due course can acquire the title to a negotiable instrument. If the instrument is payable to the order of the payee, two steps are required. First, the payee must give an "order" by endorsing his name on the instrument. The second step is its physical delivery. If either of these steps is lacking, no title passes. On the other hand, should the instrument be payable to *bearer*, any holder, whether he owns it or not, can transfer title to the holder in due course by mere delivery alone. For example, should an instrument payable to bearer become lost, a finder would have no right to collect it. But he may pass the title with full right to collect to an innocent holder who is unaware that the instrument was lost and had been found by a person with no title.

Whether an instrument is payable to order or not, it is customary for anyone receiving it from a previous holder, to require that holder to endorse it. This permits the holder in due course to come back to the endorser and hold him liable in case the instrument cannot be collected. Persons who receive negotiable instruments from previous holders necessarily depend on their endorsements for assurance of payment. It is for this reason that endorsement is required on instruments payable to bearer.

Endorsement. There are four common types of endorsement, of which the first is *endorsement in blank*. This consists of the mere signature of the endorser, and passes title with delivery. In addition to passing title, the endorser warrants: (1) that the instrument is genuine and in all respects what it purports to be; (2) that he has good title to it; (3) that all prior parties had capacity to contract; and (4) that the instrument at the time of his endorsement is valid and subsisting. Further, he promises that the instrument will be paid if properly presented when due. If the instrument is dishonored and proper notice is given of the fact,

the endorser must pay it. After an instrument has been endorsed in blank, it becomes a bearer instrument, negotiable by mere delivery. A second type is the *restrictive endorsement*. This consists of the endorser's signature, accompanied by some expression that prohibits the further negotiation of the instrument. For example, an instrument endorsed "for collection" or "for deposit" is restrictively endorsed. The person taking an instrument so endorsed is presumed to have been aware of it and holds the instrument as the agent of the endorser; any proceeds realized are held in trust for the endorser. Thus a person taking an instrument bearing a restrictive endorsement cannot become a holder in due course. A third type is the *special endorsement*, specifying the person to whose order the instrument is to be payable. Its further negotiation requires the endorsement of that person. In case he fails to endorse, the holder is entitled to the endorsement needed to pass title. The special endorsement gives protection in case of loss of the instrument in the mails. Finally, the *qualified endorsement* (without recourse) transfers title, warrants the paper's genuineness, but eliminates the guaranty of payment by the endorser.

Liability of endorsers. As noted above, endorsers ordinarily bind themselves to two things: First, they warrant *unconditionally* that the instrument is genuine (not forged), that the obligor and all previous endorsers are legally capable of making binding contracts, and that there is a good title to convey to the endorsee. Thus, should the final holder of a negotiable instrument be unable to collect because of forgery, for example, or lack of capacity to contract, he can demand that the endorser assume the loss. The second undertaking of those who endorse in the ordinary manner (not restrictively or without recourse) is that the instrument *will be paid*. In other words, such endorsers guarantee payment. But the guaranty is *conditional* only. To bind the endorsers on their guaranty the holder must present the instrument to the obligor for payment. This presentment must be in the proper manner and place and at the proper time. This requires that a time instrument be presented on the day it is due; otherwise the endorser is free of liability. If the instrument is payable on demand, it must be presented within a reasonable time. This stipulation is interpreted to mean that the last holders of bank checks and other demand bills of exchange must present them, or start their collection, within the next business day after receiving them. Other-

wise the endorser is freed from his liability as guarantor of payment. Thus a holder of a check in due course may protect himself by starting presentment, either by turning the instrument over to his bank or by other means, within the next business day after its receipt. In case of dishonor, notice must be sent to each endorser against whom the holder desires recourse. Notice of dishonor may be either in writing or oral, and given in any terms sufficient to identify the instrument and indicate that it has been dishonored. Notice of dishonor must be started so as to reach the party notified within the next business day if the parties live in the same place. Where the parties to the notice reside in different places, notice of dishonor must be deposited in the post office in time to go by mail the next business day, or, if there is no mail at a convenient hour on that day, by the next mail thereafter. If notice is not sent by mail, it must arrive within the time at which notice properly sent by mail would have arrived. Whenever notice is properly addressed and deposited in the post office (or box), the sender has given sufficient notice, even if the notice never actually arrives. A party receiving notice of dishonor has, after its receipt, the same length of time, as the original holder for notifying and binding antecedent parties. Notice of dishonor may be waived by the endorser.

A dishonored bill of exchange drawn or payable in another state (that is, a foreign bill) must be "protested"; otherwise the drawer and endorsers will be discharged. The protest must be annexed to the bill or contain a copy thereof and be under the hand and seal of a notary. It must contain the time, place, and fact of presentment and be sent as notice of dishonor to parties to be held. Endorsers sometimes mark checks "no protest" to indicate that they waive the requirement of proper presentment and formal notice of dishonor. This procedure means that they will unconditionally assume their liability as guarantors. Such a waiver has the advantage of avoiding the costs of the formal protest, which are attached to the check as returned to the endorser.

The depositor and the bank. When a depositor draws checks on his bank he promises that they will be paid. Even though a holder delays unreasonably, the depositor is duty bound to maintain an adequate balance out of which to pay outstanding checks. In other words, delay in presentment of checks does not discharge

the drawer except in one special circumstance. Should delay in presentment beyond the next business day after issue result in the check not being paid because of the failure of the bank on which it is drawn, the drawer is excused from liability to the extent of his loss.

Drawers of checks frequently try to protect themselves and the bank by making a notation on the face to the effect that the check will not be honored by the bank after a certain number of days time. This has the effect of a "stop-payment" order but does not relieve the depositor of his obligation to pay the check eventually.

Sometimes depositors carelessly draw checks in such a way as to make it easy to insert additional figures or words. This carelessness invites alteration by unscrupulous holders. The courts therefore frequently say that when a bank has paid a check in ignorance of the alteration which the depositor's carelessness made easy, the bank should not suffer the loss, but instead is entitled to charge the amount to the depositor. For this reason drawers of checks and other instruments ought to use care in filling up all unused spaces.

Questions for Study

1. Name the several kinds of negotiable instruments with which bankers deal.
2. What are the main requirements for an instrument to be negotiable?
3. Can you distinguish between a promissory note and a bill of exchange?
4. What is a trade acceptance? A banker's acceptance? A bank draft?
5. In what way are the rights of an assignee of an open account inferior to those of an indorsee (innocent holder) of a negotiable promissory note?
6. Contrast "absolute" defenses with "personal" defenses against the payment of negotiable instruments by the obligors.
7. Who is a "holder in due course"?
8. What is a material alteration? How does it affect the rights of a holder in due course?
9. What is an endorsement in blank? What are the warranties of such an endorsement? How do these differ from the guaranty of payment?

10. What is the effect of an endorsement without recourse?
11. When should a special endorsement be used? When is a restrictive endorsement used?
12. When must a bill of exchange be protested? What is the effect of an endorser's stamping "N.P." upon the face of the bill?
13. What must the holder of a check do to insure that he can hold previous endorsers in case payment is refused?
14. What is the effect on the liability of a drawer of a check if the holder delays his presentment for 6 months?
15. In case of bank failure what is the liability of the drawer of a check where presentment for payment was delayed?

The Bank's Deposits and Depositors

The deposits of the individual bank. To understand the nature and significance of bank deposits requires a dual approach. First, one must learn something of the source of the deposits of the individual bank, the characteristics of these deposits, and the peculiar problems related to them. In this chapter we shall be concerned mainly with bank deposits from the point of view of a single bank. In a later chapter (20), after our study of the lending and investment activities of banks, we shall examine the question of bank deposits from the broader point of view of the whole banking system. We shall then be in a position to study the way in which the deposits of the banking system rise and fall in response to changes in the quantity of loans and investments that the banks as a whole are able and willing to make.

In examining deposits of the individual bank, it is helpful to remember that from the viewpoint of one bank, among the thousands in our whole system, the total volume of deposits is a fixed quantity. This view derives from the fact that the individual bank has little, if any, control over the total volume of deposits in the banking system. It follows, therefore, that the individual bank necessarily must concern itself with acquiring as large a fraction of the total deposits as possible. It is perfectly clear to the banker that he can lend only the funds he has in excess of existing reserve requirements. The reason for this condition is, of course, the certainty that sooner or later borrowed funds are withdrawn from the bank. Except for the contributions of the stockholders and funds borrowed from other banks, the banker is completely dependent upon funds brought in by depositors. To be sure, not all of the deposits may be lent, for experience and the

law require that some cash reserves be kept available to meet depositors' demands. Fortunately for the banker, the cash or cash reserves need be but a fractional part of the bank's deposits. By the law of averages, new deposits by some depositors offset the withdrawals of others, so that there is slight probability that the bank will experience any large loss of cash in any normal business day. Profitable banking requires that these reserves be kept at the lowest practical limit in order that the loanable funds derived from deposits shall be at a maximum.

In the present chapter we are interested in the problems of the individual bank as it strives to maintain its position in the banking system. This it must do by attracting, as best it may, the largest possible share of the total available supply of bank deposits.

OBTAINING DEPOSITS

Competitive methods. The banker has a number of methods by which he may seek to attract deposits. He may erect an imposing building whose entrance is flanked by marble pillars, symbols of strength. He may expand the free services and conveniences available for his customers. He may advertise, in a restrained and dignified manner, on billboards and in newspapers. He may organize a "new business department" whose function is to make contacts with new customers. He may persuade the stockholders to elect a prominent business executive to the board of directors in order that all or part of the deposits of the executive's firm may be captured. Finally, he may compete with other bankers for deposits in a more direct way by offering higher rates of interest on deposits. This last form of competition has been especially important. A good many depositors are influenced by the interest payments and respond favorably to offers of higher returns. Therefore, when one bank offers higher interest to depositors, other banks are forced to do likewise. This practice tends to reduce the profits of banking and influences the banker to seek increased earnings by making less conservative loans and investments. To a considerable degree, banking is exposed to the danger of cutthroat competition. There seems always to be excess capacity in any given bank for absorbing and holding additional deposits. This creates a powerful temptation to try to attract such added deposits by offering higher interest. Perhaps if all bankers could be trusted to refuse to make unsafe loans under

the stress of competition and profit seeking, unlimited competition for deposits among bankers would have no dire results. What borrowers would pay for well-secured loans would tend to fix the limit on interest payments to depositors. In actual practice, however, all bankers cannot be trusted to watch competition cut into profits without taking some action to prevent it. There seem always to be some potential borrowers who will promise to pay higher interest on loans in order to finance untried and hazardous ventures. The banker, seeking greater earnings to compensate for high interest paid on deposits, may turn to these more speculative loans and investments. The evil consequences of such action are concealed during periods of prosperity, but depression reveals them. Experience has repeatedly shown the fatal results of such competition. To guard against excessive competition for deposits, clearinghouse associations have sponsored agreements among their members regulating competitive practices. Particularly, they have attempted to control the charges made by banks for services rendered to customers and the payment of interest on deposits. The Banking Acts of 1933 and 1935 recognized the need for regulation of competitive interest payments by prohibiting all insured banks from payment of interest on demand deposits and by providing for the setting of maximum rates of interest paid on time deposits.

Prohibition of interest payments on demand deposits. The Federal Reserve Act prohibits the payment of any interest on demand deposits of member banks, "directly or indirectly, by any device whatsoever." It also requires the directors of the Federal Deposit Insurance Corporation to issue regulations prohibiting interest payments on demand deposits of insured nonmember banks. Therefore, except in the case of the unimportant non-insured banks, demand deposits can no longer earn interest.

The legal prohibition of interest on demand deposits was designed, in large measure, to prevent competitive interest payments by city banks to attract the accounts of country banks. It was thought that such competition was objectionable from two standpoints. First, it tended to cause "unnatural and unhealthy concentration in the larger centers of funds from the smaller communities without regard either to geographical or business affiliation."¹ Second, balances of country banks so acquired by city

¹ "Absorption of Exchange Charges," *Federal Reserve Bulletin*, February 1944.

correspondents are volatile, subject to rapid withdrawal in time of depression and crisis, and therefore dangerous to the banking system. The prohibition on interest payments on demand deposits, therefore, was apparently designed to reduce the volume of interbank balances and to direct those remaining into more natural and economical channels.

The rule against interest on demand deposits created the problem of defining interest payments. It is agreed that free services rendered by the bank to the depositors are not to be construed as the payment of interest. The Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation define interest as any payment to or for the account of any depositor as compensation for the use of funds. This leaves the question of what constitutes an interest payment in any particular case to "administrative determination under the general law in the light of experience, and as specific cases develop." One of the most difficult problems to be dealt with has arisen out of the habit of certain banks of charging exchange on checks drawn on themselves and presented for payment through the mails. Under this practice, such banks (called nonpar banks) will remit less than the full face amount of checks drawn against them and presented by other banks for payment through the mail.² Some city correspondent banks, to attract country bank balances, agreed to accept from their country correspondent banks for deposit at par, checks drawn on nonpar banks. This meant that the city correspondent gave country banks more credit on their balances than it would realize from the collection of nonpar checks. In other words, the city correspondent agreed to absorb the exchange charges. To meet this practice, the Federal Deposit Insurance Corporation established the policy that absorption of exchange charges by non-member insured banks, in routine collections of nonpar checks for depositors, is not to be considered the payment of interest unless *facts* and *circumstances* indicate that the practice is used as an interest-paying device. The Board of Governors of the Federal Reserve System found in some cases that substantial amounts of exchange charges were being absorbed by member banks. For some customers this absorption amounted annually to as much as 2 or 3 per cent of their average balances. This practice, the

² This practice will be explained more fully in Chapter 10.

Board ruled, was in reality a payment of interest and a violation of the rule. It found one small suburban member bank that, by agreeing to absorb exchange charges, managed within one year to expand its deposits from \$800,000 to over \$8,000,000. Of this amount, \$6,800,000 consisted of correspondent bank balances. On June 22, 1945, the Board of Governors established a rule of presumption to the effect that so long as a bank absorbed incidental and trivial charges amounting to not over \$2 per month for any one depositor, it would not be considered in violation of the law.

Regulation of interest on time deposits. Time deposits are subject to two limitations as to interest payments. First, member banks may pay no more (but may, of course, pay less) interest than that prescribed by the Board of Governors. Second, they may pay no more than the maximum rate permitted to state banks and trust companies. Under the 1935 banking act, the Board of Directors of the Federal Deposit Insurance Corporation is empowered and directed to put into force regulations on the payment of interest by nonmember insured banks. The maximum rates of interest that nonmember insured banks may pay on time deposits have been made the same as those for member banks. The maximum rates on time deposits fixed for member banks are shown in Table 2.

TABLE 2

MAXIMUM RATES OF INTEREST ON TIME DEPOSITS OF MEMBER BANKS,
IN EFFECT SINCE JAN. 1, 1936
(As Set by the Board of Governors of the Federal Reserve System)

Savings deposits	2½%
Postal savings	2½
Other time deposits payable in:	
6 mo. or more	2½
90 days to 6 mo.	2
Less than 90 days	1

In some states, the state banking authorities have fixed maximum rates of interest payable on time deposits at figures lower than those set by the Board of Governors. In such states, the lower state figures become the maximum which can be paid by all member banks.³

³ For a careful survey of the problem of regulation of interest paid on deposits, see Watkins, L. L., *Commercial Banking Reform in the United States*, 1938, *Michigan Business Studies*, Vol. VIII, No. 5, Part 2.

Withdrawal of time deposits. Not only are banks limited in their interest payments, but they are also subject to regulation as to the withdrawal of time and savings deposits. Section 19 of the Federal Reserve Act, as amended in 1935, prohibits the payment of time deposits before maturity, except in accordance with such rules and regulations as may be prescribed by the Board of Governors, and prohibits the payment of any savings accounts without notice unless all savings accounts of the bank are similarly payable. Likewise, time deposits payable on notice (except savings) are not to be paid until the expiration of the period of notice. But the regulation of the Board permits the payment of time deposits before maturity or the fulfillment of the notice period provided the depositor makes a written application showing that such payment is necessary to prevent "great hardship" in meeting an emergency. Such application must be approved by an officer of the bank and kept on file. On such withdrawals the depositor loses up to three months' accrued interest. Similar regulations of the Federal Deposit Insurance Corporation apply to nonmember insured banks. Banks may also make loans on time deposits and savings deposits on which notice of withdrawal is enforced, at rates not less than 2 per cent per year above the rate being paid the depositor by the bank.

CLASSES OF DEPOSITS

Time versus demand deposits. A study of bank deposits is not complete without a more detailed consideration of the several types of deposits. Bank deposits may be classified in several different ways, the most common grouping being time deposits and demand deposits. The immediate purpose of such a classification is to determine the reserve requirements of banks that belong to the Federal Reserve System. Another important reason for such a division of deposits lies in the fact that, in general, *time* deposits are thrift accounts, less subject to irregular withdrawal and more free from heavy seasonal withdrawals than the demand deposits. Because of this fact, it is normally possible for a bank to tie up funds derived from time deposits in more or less long-time investments, combining a reasonably high yield with good security. This can be done, since a high degree of liquidity is not required. On the other hand, to a considerable extent, *demand* deposits should be invested in liquid loans or readily

saleable paper. This is true even if the general level of demand deposits shows no great tendency to fluctuate, since potentially demand deposits of any one bank are less stable than the time deposits. It should be noted that time deposits representing the surplus funds of businessmen are somewhat similar to demand deposits. They are classified under the heading of time deposits to enable the bank to carry smaller legal reserves and offer interest to the depositor.

Section 19 of the Federal Reserve Act, as amended in 1935, authorizes the Board of Governors to define demand and time deposits for the purpose of determining legal reserve requirements. In Regulation D, the Board has established the following definitions:

1. Demand deposits include all deposits except time deposits.
2. Time deposits consist of three classes: (a) time certificates; (b) time deposits, open account; and (c) savings deposits.
3. Time certificates of deposit are deposits evidenced by an instrument (negotiable or nonnegotiable) payable at least thirty days after the date of the deposit or upon at least thirty days' written notice and on presentation and surrender of the instrument.
4. Time deposits, open account, are deposits other than time certificates or savings deposits, in respect to which there are written contracts to the effect that neither all nor any part may be withdrawn prior to a maturity date at least thirty days after the date of deposit or without thirty days' written notice. Such accounts include Christmas and vacation savings clubs.
5. Savings deposits must be evidenced by a pass book and consist of funds deposited to the credit of individuals (except partnerships operated for profit) or nonprofit organizations. Banks must have the right to require at least thirty days' written notice of withdrawal of such deposits. Payment is to be made only upon presentation of the pass book or directly to the depositor himself.

Kinds of depositors. A second type of classification of deposits is one based upon the kind of depositor, and may consist of the following:

1. Individual demand deposits, including deposits of business houses, and private business and personal accounts.

2. Governmental deposits including:
 - (a) Federal Government deposits.
 - (b) State, county, and municipal deposits, and deposits of the other governmental subdivisions.
3. Bankers' balances (or due to banks), which represent the deposits of other banks maintained for the purpose of:
 - (a) Providing the banks owning the deposits with working cash reserves.
 - (b) Facilitating the collection of checks.
 - (c) Furnishing customers with city drafts.
 - (d) Facilitating lending in central money markets.
 - (e) Maintaining contacts with city correspondents to facilitate the sale of foreign exchange drafts.

The relative magnitude of the time and demand deposits held by the main classes of depositors is shown in Chart 3. At the end of 1945, the demand deposits in commercial banks belonging to the United States Government were still abnormally high as a result of wartime Governmental borrowing. By the end of 1946, the level of these deposits was considerably reduced as the Treasury applied a large part of the balances to the retirement of some of its short-term debt. The relative magnitude of the time and demand deposits held by individuals and businesses at the end of 1948 is shown in Table 3.

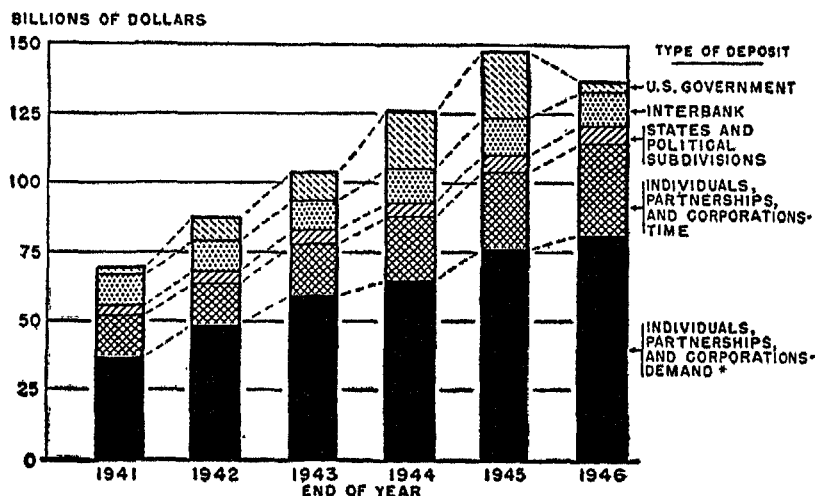
TABLE 3

ESTIMATED DISTRIBUTION OF DEPOSITS BY CLASSES OF DEPOSITORS *
(As of December, 1948)

	<i>Demand deposits</i> (in billions)	<i>Time deposits</i> (in billions)
Total business holdings	\$33.8	\$3.5
Nonfinancial corporations	20.5	0.6
Financial corporations	2.2	0.1
Unincorporated businesses	11.1	2.8
Total personal holdings	30.8	52.6
Trust funds	1.6	0.5
Other personal holdings including those of farmers	29.2	52.1

* These estimates were taken from "Estimated Liquid Asset Holdings of Individuals and Businesses," *Federal Reserve Bulletin*, July 1949, p. 794. The figures given are smaller than comparable figures in published statements of banks by the amount of the float of uncollected checks.

Secured and unsecured deposits. A third type of classification might be made on the basis of secured and unsecured deposits. The ordinary depositor is merely a general creditor who shares in the remaining assets of a liquidated bank after the preferred claims have been met. The common method by which a banker prefers his creditors is through the acceptance of deposits requiring special



* Includes certified and officers' checks letters of credit and travelers' checks sold for cash, and amounts due to Federal Reserve Banks.

CHART 3. DEPOSITS OF INSURED COMMERCIAL BANKS. NON-GOVERNMENT DEPOSITS CONTINUED TO GROW SUBSTANTIALLY; U.S. GOVERNMENT DEPOSITS RETURNED TO PREWAR SIZE IN 1946. Source: *Report No. 26, Assets and Liabilities*, December 31, 1946, Federal Deposit Insurance Corporation.

security. Member banks that obtain deposits in excess of \$10,000 from the Federal Treasury must give security for such deposits by pledging government bonds or other collateral with the Secretary of the Treasury.⁴ Similar regulations apply to deposits of state, county, and municipal governments. The deposit of funds by the trust department of a national bank with the banking department requires the bank to set aside a sufficient amount of government securities to make certain that the trust department deposits are fully secured.⁵ The average depositor is seldom aware of the existence of depositors with preferred claims.

⁴ Federal Reserve Act, Section 9, and Banking Act of 1935, Section 324 (d), amending Section 19, Federal Reserve Act.

⁵ Federal Reserve Act, Section 11 (k).

Not only are secured depositors preferred to that degree, but also there are other claims that take priority over those of ordinary depositors. A bank that is compelled to borrow funds to maintain its cash position generally gives the lender special security. If so, the lender is in a position of preference over the ordinary depositor. This is true whether the borrowing bank obtains funds from its city correspondent or from the Federal Reserve Bank.

RELATION OF THE DEPOSITOR TO HIS BANK

Creation of a deposit. Deposits in a commercial bank may be established in either of two ways. First, they may be created by the bank as a result of the extension of a loan to the customer. Such deposits are of a peculiarly ephemeral character, since they are almost certain to be withdrawn shortly after their creation. The more stable deposits of a bank, however, consist of funds placed in the bank's care for safekeeping and convenience. These funds consist of cash and negotiable instruments payable in cash.

If the depositor brings cash, checks, or such other cash items as bank drafts, high-grade bond coupons, and the like, he receives immediate credit on his account for the full amount, less any deduction made by the bank for collecting out-of-town items. This credit is given subject to the actual collection of the proceeds by the bank. If the depositor brings in "collection items" such as notes of and drafts on business houses and less-known bond coupons, the proceeds, less charges for the collection services, are credited to the depositor's account when realized.

Within the bank, the funds deposited are handled in the appropriate manner. Checks on the bank itself go to the bookkeeping department to be deducted from the drawer's account. Checks on other banks in the same city are sorted as to banks, endorsed, and sent to the clearinghouse at the next clearing period. Checks on out-of-town banks are sorted according to the bank to which they are to be sent for collection, endorsed "pay to any bank or banker, all previous endorsements guaranteed," and properly recorded before being sent to the appropriate bank for collection. These checks may be sent to: (1) the Federal Reserve Bank of the district if the bank concerned is a member or a nonmember clearing bank; (2) to a correspondent bank; and (3) to the drawee bank itself. Collection items received are forwarded to the Federal Reserve

Bank or some correspondent bank, which will present the draft, note, or coupon for payment, and remit the proceeds, less any charges. The depositor's account is then credited with the proceeds on their receipt by his bank.

Obligations of the bank to the depositor. The deposit of funds with the bank gives rise to definite obligations. The bank becomes a debtor, since the depositor normally surrenders all rights to the funds deposited in return for the bank's promise to pay on demand or notice, as the case may be. The bank is under contract to pay out the cash upon the bona fide order of the depositor to do so. This condition makes it essential that the bank verify the genuineness of the drawer's signature before paying, for if payment is made on a forgery, the bank naturally cannot deduct the amount from the depositor's account and cannot demand a refund from any innocent holder who may have presented the check for payment. Further, it must be certain that the payee's endorsement is genuine unless there is a subsequent endorsement of a responsible party upon which the bank can rely. This follows from the fact that not only must the bank make payment on the order of the drawer alone, but also must pay only to the payee designated, or to his order.

Other incidental responsibilities rest upon the bank. It must not pay a check before it is due; it must watch for discrepancies between the writing and the figures; and it must satisfy itself that the depositor has sufficient funds unless it is prepared to grant him an overdraft. Care must also be taken to observe any stop-payment order which may be given by the depositor, since failure to do so would cause the bank loss of the amount of the check involved. Finally, it may be called upon to certify checks for depositors who wish to make payments where ordinary personal checks would not be acceptable. Certification is the statement written on the check by the bank to the effect that the check will be paid. The amount of the certified check is immediately deducted from the depositor's account and constitutes an addition to "certified checks outstanding."

Account analysis. There was a time, before the great depression of 1929, when bankers outside the more sophisticated financial areas of the large cities were inclined to the view that any and all deposits were desirable. Because bank operations were in general profitable, a rigid examination of costs seemed unneces-

sary. In those times housewives, armed with shopping list and check book, toured the towns and cities and left a trail of irregularly sized checks to mark their progress. The birth of a baby was the signal for the family banker to sow the seed of thrift by the gift of a toy bank containing a ten-cent piece. Small deposits were welcomed under the happy illusion that as big oaks from little acorns grow, so the small account might be expected to grow into a large and highly desirable one.

But these easygoing days disappeared quickly with the depression. Bankers were confronted with heavy losses to be written off, while earnings declined sharply under the impact of falling interest rates and shrinking loan volume. Bankers, therefore, began to listen to the earlier but largely unheeded advice of those who had urged them to look to their costs. It became imperative that they know whether or not depositors' accounts justified themselves and what to do about it if they did not.

The first requirement for evaluating the worth of a particular account is to estimate its contribution to the bank's loanable funds. This may be accomplished as follows:

1. The average daily balance for a given month is calculated by adding together the amounts standing to the credit of the depositor and dividing the total by the number of days in the month. If the account is given to a high degree of fluctuation, the minimum balance appearing in the account during the month may be of more significance.

2. From the average daily balance is subtracted the average daily "float" of uncollected checks for which the depositor has been given immediate credit. The remainder is the collected or realized balance.

3. From the collected or realized balance is deducted the percentage of the total which must be set aside for reserves. Such reserves must include not only the legal requirements, but also any necessary till money and working balances carried as deposits in other banks.

4. The remainder is the amount actually available for investment. To calculate the earning power of this fund, it may be multiplied by the average monthly rate of interest earned by the bank's loans and investments. This calculation is subject to the objection, however, that it may overvalue the actual earning power

of the account if excess reserves are high or if the account is of the sort that requires more than average liquidity.

The second step in evaluating the worth of a depositor's account is the calculation of costs to the bank incurred in handling it. Costs that may be properly allocated to depositors' accounts include: (1) the cost of handling checks drawn upon the bank by the depositors; (2) the cost of collecting local checks through the clearinghouse; (3) the cost of collecting checks on out-of-town banks; and (4) the cost of handling receipts of cash deposits. Before the bank can estimate the cost of handling the account of any particular depositor, it is necessary to determine the unit cost of each banking operation related to the handling of depositors' accounts and the number of such operations chargeable to the account in question.

To determine the unit costs of each operation, the total expenses of each department carrying out the functions related to deposits must be allocated to the several functions. In this manner the total cost for a given representative period may be obtained for (1) handling checks on the bank itself; (2) the clearing of local checks; (3) the collection of out-of-town checks, and so forth. The total costs for each function may then be divided by the number of items handled during the period and the unit cost or cost per items estimated. Such estimates are likely to be, at best, but rough approximations subject to the limitations of unit cost calculations in any business. Moreover, they do not cover the overhead costs of running the bank, but only the direct operating expenses of handling deposits.

Although the ideal way to obtain the item cost properly chargeable to depositors' accounts is to make a thorough cost study of the bank itself, in practice the majority of bankers do not use this method. Instead, they tend to adopt, as applicable to their own banks, cost studies which have been made in other banks. Clearinghouse associations frequently adopt a uniform rate of charges based upon assumed uniform item costs for all of the affiliated banks. The item costs which are assumed as the basis of these charges may be based upon the cost analysis of one of the banks in the clearinghouse or, more frequently, upon some cost study made in another city. Any claim for exactness in the schedule of costs so adopted is therefore unwarranted. To illustrate such

estimates of cost, the Research Committee of the Indiana Bankers Association found the following cost figures in three "competent" cost surveys:

<i>"On Us" Items</i>	<i>Transits</i>	<i>Clearings</i>
4.15765 cents	2.4959 cents	0.83153 cents
5.536 "	3.15 "	1.839 "
5.1121 "	2.4909 "	1.3106 "

Because estimated unit costs include only direct operating expenses, before these costs are applied to the account some allowance must be made and added on for "profit." The Bank Management Commission of the American Bankers Association suggests that the mark-up of unit costs should be not less than 25 per cent and not more than 50 per cent.⁶

The application of the adjusted, marked-up item cost to a particular account is relatively simple. The number of items of each type handled for the account during the month is multiplied by the appropriate charge per item. The total item costs of handling the account can thus be estimated. To these costs are sometimes added a maintenance cost, which is applied equally to each account and is designed to cover the cost of providing pass books, balancing ledgers, and so forth. Another charge is one based upon the size of the account, and includes such costs as protective insurance, guards, any taxes on deposits, and FDIC assessments on demand deposits. Finally, the cost of rendering any special service to the depositor should be charged against the account.

The profit or loss realized by the bank upon a particular account may then be calculated by subtracting the costs from the earnings credited to it. If costs are above earnings, the depositor may be required either to increase the size of his collected balance or to pay a service charge.

Service charges. Two types of service charges are in common use, the "flat" and the "measured" charge. The flat service charge consists of assessing a monthly charge against accounts in which the average balance falls below a certain figure. Before 1930 this was the type of plan in use among the banks that made use of service charges. Although simple and easy to operate, such a plan is inequitable in that it does not allow for the differences

⁶ *Uniform Account Analysis*, 1939, Commercial Bank Management Booklet No. 23.

in activity among accounts. For this reason the flat charge has generally been abandoned in favor of the measured type.⁷

Considerable variation appears in the application of the measured service charges. Many systems provide for a basic charge of 50 cents per month on accounts that fail to maintain an average or a minimum balance of \$50. Even more common is the application of a service charge of from 50 cents to \$1.00 on accounts not maintaining an average balance of \$100. It is common to allow a certain number of "free checks" in return for the payment of the minimum charge or for maintaining a certain minimum balance. Beyond this, the unit or item cost, adjusted for profit, is applied. The following schedule well illustrates the common practice.

Schedule of Service Charges on Checking Accounts

A. ACTIVITY CHARGES

Maintenance charge per month	\$0.50
First ten items	Free
Per item charge for next 200 items	0.04
Items in excess of 210—per item	0.02

The term "item" includes all checks charged and all deposits credited to the depositor's account, as well as all checks on other banks that are accepted for deposit or that are cashed. The charge for issuing drafts and out-of-pocket expenses will also be added to the "item" account. Carry-over credit from one month cannot be used to offset charges of a subsequent month. A service charge of less than 10c will not be debited on any account.

B. ANALYSIS ALLOWANCE

We will allow a credit of 10 cents for each \$100 of the minimum balance for the month with a minimum allowance of 10 cents.

C. STUDENT ACCOUNTS

Student accounts are regarded as temporary and will be subject to a charge of \$1.00 when the account is opened.

Not all accounts are subjected to detailed analysis. Large accounts (\$500 or over being the most common dividing line) and active accounts are analyzed in detail, but smaller and inactive

⁷ For a comprehensive examination of service charges, see the *Service Charge Survey*, 1939, Bulletin No. 77, Research Council, American Bankers Association. Also see the *Report of the Research Committee*, Indiana Bankers Association, 1937, Part II. Also, for the practices of 2,406 country banks, see "Survey of Service Charge Trends," *Banking*, April, 1950, pp. 36-39, which reviews the Service Charge Survey, 1950, made by the American Bankers Association.

accounts are handled simply by the application of the basic monthly charge plus charges on checks drawn in excess of a specified number. The importance of service charges in bank earnings is indicated by the fact that in 1947 they constituted 4.6 per cent of the total earnings of member banks.

SEGREGATION OF THRIFT DEPOSITS

The time deposits of all banks in the United States amounted to \$55.3 billion at the end of 1949. About \$36 billion of these were held by banks combining commercial and savings banking, with the remainder held by specialized mutual savings banks. Most of these time deposits belong to individuals and are largely in the nature of thrift or savings accounts. From time to time proposals have been advanced to separate the earning assets based upon funds received from thrift depositors from those based upon banks' commercial or demand deposits. This type of proposal is referred to as "segregation of thrift accounts."

Movements to bring about such segregation arose before the introduction of Federal Deposit Insurance, which now guarantees thrift depositors as well as others against losses from bank failures up to the amount of \$10,000. Now that we have deposit insurance the need for segregation is largely removed since thrift deposits are usually small. As early as 1926 eleven states had adopted some form of segregation of savings deposit assets.

Segregation, to be effective, must provide that funds from savings or thrift deposits be placed in a special account and invested in an appropriate manner. Preferably, the investment of thrift funds should be regulated by rules similar to those normally governing the investments of mutual savings banks and the assets acquired through the investment of thrift funds should be set aside for the sole benefit of the thrift depositors. Such a plan involves a complete departmentalization of banks so far as the two general types of deposits are concerned. For maximum effectiveness it also should provide that a proportionate share of the bank's capital and surplus be allocated for the benefit of each type of deposits. This is essentially the plan provided by the laws of California. Although this procedure results in what is virtually a separate bank for each type of business, there is still the advantage of combining the several different banking services under the same roof and under the same management.

The reasons for segregation have been well illustrated in times of bank failure. A study of banks failing during the crisis of the 1930's showed that demand depositors withdrew their funds ahead of the time depositors.⁸ Thrift depositors are handicapped both by ignorance of developing weaknesses in a bank and by the possibility that the bank may seek to protect itself by demanding notice for time deposit withdrawals. In addition there is the physical chore of standing in line at the paying teller's window, which delays if it does not prevent the withdrawal of time deposits. In contrast, demand depositors merely need to write a check and deposit it in some safer bank. Segregation of thrift assets, therefore, when legally established, protects savings depositors from being left with empty claims against a bank that has liquidated its best assets to meet the withdrawals of the demand depositors. There is no question but that thrift depositors are entitled to special protection, for they are both exposed to unusual risks and in general are badly equipped to sustain losses. Segregation of assets represents a serious attempt to meet the need for such protection. The advent of deposit insurance, however, has now reduced its importance.

Nevertheless, there remains some possibility of benefit for thrift depositors from segregation of assets. Less liquidity of assets is needed to meet the claims of thrift deposits than is needed for demand deposits. Consequently, segregation would make possible the investment of thrift funds in less liquid and higher earning assets and permit the payment of a higher rate of interest than is possible when thrift deposits must share in the low yields from the highly liquid assets required for commercial banking. Nor would such a policy need to impair the solvency or increase the risk of loss.

Questions for Study

1. To the individual banker the total volume of bank deposits is fixed by forces beyond his control. Why does this explain a tendency for banks to compete for deposits?
2. Can you explain why competition among banks for deposits tends to be cutthroat and dangerous?

⁸ Cf. "An Analysis of the Timing of Deposit Reductions Prior to Suspension in a Selected Group of Banks," *Federal Reserve Bulletin*, June 1939, pp. 468-470.

3. What appears to have been a main purpose of the prohibition of interest payments on demand deposits?
4. Why is it necessary to require that time deposits be not paid before maturity? Can you see any reason for exempting savings deposits from this rule?
5. How was the conflict between the prohibition of interest on demand deposits and the absorption of exchange and other charges for depositors resolved?
6. Which depositors and other creditors of banks have preferred claims?
7. Why must the bank be especially careful to verify the genuineness of the drawer's signature before paying checks drawn upon it?
8. What is certification of checks? What is the purpose of it?
9. What are the essential steps in a proper analysis of a depositor's account? How reliable and exact are the costs charged against the account? Do you think that banks are justified in making service charges on small accounts?
10. What reason, if any, exists for segregating thrift accounts which are already insured up to \$10,000?

9

The Bank's Reserves

A BANK RECEIVES DEPOSITS THAT ARE OBLIGATIONS TO PAY CASH according to the terms of the deposit contract. If the depositors of a bank are sufficiently numerous, there is a reasonable expectation that funds withdrawn on any given day by one group of depositors will be offset in large measure by new deposits of funds by other customers. This expectation is increased if a considerable degree of diversification exists among the depositors' business interests. If a banker were certain that new deposits and withdrawals would actually offset each other every day, the need for cash would be small indeed. Actually, a considerable variation in the rate of new deposits and withdrawals exists from day to day, even though the general level of the bank's deposits may be quite stable.

BANK RESERVES

To be prepared to meet these variations, the bank must carry cash reserves in sufficient amount to insure its ability to fulfill its obligations as they arise.

Size of cash reserves. The relative size of the cash reserves on the one side, in comparison with deposit obligations on the other, depends upon a number of considerations:

1. The number of depositors and the diversity of their business interests.
2. The confidence of the public in the bank. (Evidence of this is found in the excessive cash holdings of banks during times of bank failure.)
3. The particular nature of the deposits. (For example, customers who have periodic payroll requirements present special reserve problems.)

4. The readiness with which the bank can increase its cash by borrowing or by liquidating its earning assets.
5. The demand for loans at the time. (If business is depressed, bank reserves tend to rise because of a lack of outlet for loanable funds.)
6. The minimum reserves required by law.

Form of primary reserves. The primary reserves of a bank take the form of cash in the bank's own vaults and demand deposits with other banks. Banks that are members of the Federal Reserve System carry reserve balances with two kinds of banks. First, the law requires that an amount equal to a certain fractional part of the deposits be maintained with the Federal Reserve Bank. This constitutes the "legal" reserve. In addition, banks normally carry deposit balances in banks of cities with which the local community has active trade relations.

Barring some contingency which may make them unavailable when wanted, the deposits in other banks are the equivalent of cash to the depositor bank. Further, they have other advantages over vault cash. Many checks drawn by the customers are sent out of town and are presented for payment through the mails by banks in other cities. A draft drawn on a reserve balance in a bank of another city is an acceptable means of paying these checks and is cheaper than shipping cash. On the other hand, the bank receives from depositor-customers checks and drafts payable in distant cities. These checks are sent to city correspondents for collection, and the proceeds may then conveniently be credited to the sending bank's reserve account. Thus it is evident that balances carried in banks of other cities may be as useful a form of reserve as is cash in the bank's own vault. Furthermore, before 1933, it was the practice of city correspondents to pay interest on such deposits, thereby adding to the attractiveness of carrying reserves in deposit form. This practice ceased when interest payments on demand deposits was prohibited.

Importance of vault cash or till money. The proportion of reserves carried as cash in vault to that carried in deposits in other banks varies considerably from bank to bank, depending upon particular conditions. If the bank in question is located near the bank in which it carries its reserve balances, its cash can be allowed to fall to the minimum required for current over-the-counter uses. If any extraordinary demand for cash arises, it is but a question of

a few hours at most until cash can be obtained. On the other hand, if the bank is remotely situated from its depository bank, its cash requirements will be somewhat higher. This is well illustrated by Table 4 which shows the reserves of different groups of banks belonging to the Federal Reserve System.

TABLE 4

RESERVES OF MEMBER BANKS IN PERCENTAGE OF GROSS DEPOSITS *
(As of June 30, 1949)

	<i>Central Reserve City Banks</i>	<i>Reserve City Banks</i>	<i>Country Banks</i>
Cash in vault	0.5%	1.1%	2.1%
Due from Federal Reserve Banks ...	19.8	15.4	11.8
Due from other banks	0.6	3.9	7.1
Total reserves	20.9%	20.4%	21.0%

* Compiled from the *Federal Reserve Bulletin*, October 1949.

Legal reserves and working reserves. Guided by experience, the intelligent banker will maintain such a proportion of his deposits in cash as will enable him readily to meet all demands. To do less is to court disaster. If the banker carries more than is reasonably necessary, he cuts down his earning assets and reduces his profits. Here in the United States the chartering of banks has been carried on with such a lack of discrimination, in the belief that individual freedom should extend to banking, that a great many banks have been founded and operated by persons with little skill or natural ability as bankers. The resulting failures and the attendant public inconvenience have brought about universal regulation of banking operations. These regulations have included the fixing of minimum reserve requirements.

It thus happens that all commercial banks in the United States are required, by law or by orders of supervising authorities, to maintain certain minimum reserves against their deposit liabilities. For example, banks that are members of the Federal Reserve System are expected to maintain their reserves at a certain required level. Should they fail to do so, any reserve deficiency is subject to a penalty amounting to 2 per cent per annum above the Federal Reserve Bank discount rate on 90-day commercial paper. Furthermore, should a member bank appear negligent in maintaining its reserves, special notification is sent to each of its

directors. Should the member bank continue to disregard warnings in respect to deficiencies in reserves, the Board of Governors may institute legal proceedings to terminate the bank's membership in the Federal Reserve System.¹ In view of all this, a bank is loath to pay out cash when by so doing it impairs its legal reserve position.

The result of this attitude toward legally required reserves is that in practice such reserves constitute, for the individual bank involved, little more than a possible last line of defense against emergency depositor demands. Indeed, in the past they have failed to function even in that capacity. In the days before there were Federal Reserve Banks to come to their rescue, banks periodically found themselves unable to meet depositors' demands without impairing their legal reserves. Under those circumstances they chose to suspend payments temporarily rather than reduce their reserves below the legal minimum. It follows, then, that legal reserves constitute funds that add little, if anything, to the direct liquidity of a bank.

One may agree, therefore, with the Committee on Bank Reserves of the Federal Reserve System when it concluded that the legal reserve requirements for member banks are useful only: (1) in influencing the volume of bank credit which can be maintained by the banks; and (2) in supplying the Federal Reserve Banks with funds with which "to pursue an effective banking and credit policy."² It follows, therefore, that banks must carry working reserves in excess of their legal minimum requirements in order to function properly. These working reserves for member banks may consist of: (1) cash in the bank's own vault; (2) demand deposits with other banks; and (3) deposits with the Federal Reserve Bank in excess of the legal requirements. In the case of nonmember banks, working reserves over and above the legal requirements may likewise be carried in any manner which best suits their needs. Before the passage of the Banking Act of 1933, nonmember banks received interest on that part of their reserves, legal and otherwise, which was deposited with other banks. The member banks received no interest on legal reserve balances in

¹ Regulation D, as amended July 14, 1942, *Federal Reserve Bulletin*, August 1942.

² *Report of the Committee on Bank Reserves of the Federal Reserve System*, 1931, p. 5. Member banks are required to carry their legal reserves as deposits in the Federal Reserve Banks.

the Federal Reserve Banks but did obtain interest on their other working reserves deposited elsewhere. But the prohibition of payment of interest on demand deposits under the 1933 law effectually prevents either legal or working reserves of any banks from earning interest.

It is not strictly correct to hold that legal reserves of banks which are members of the Federal Reserve System contribute nothing to liquidity. Member banks constantly replenish their legal reserve balances by sending checks to the Federal Reserve Bank for collection. Likewise they draw against these balances to pay checks on themselves presented through the mails.³ In practice, therefore, the legal reserves of banks are actually in a constant state of flux, for they constitute a reservoir in and out of which payment may be made continuously while the general level remains the same. In computing legal reserve requirements an allowance is made for this process by requiring only that legal reserves *average* an amount equal to the requirements over a period of one or two weeks. Above the general level of legal reserves are the working reserves that are depended upon to absorb any short-time net changes in the cash position of the bank. The size of this excess of working reserve will normally depend upon: (1) the till money requirements from day to day; (2) the probable short-time variations in net deposit withdrawals; and (3) the ease or difficulty with which earning assets (secondary reserves) can be converted into cash. Members of the Federal Reserve System which are located near Federal Reserve Banks and are in possession of assets readily usable for borrowing at the reserve banks carry a low volume of such working reserves, but those at greater distances carry more.

*Legal reserve requirements.*⁴ To determine the reserve requirements of banks belonging to the Federal Reserve System, the law classifies cities and towns into: (1) country districts; (2) reserve cities; and (3) central reserve cities. For each class the law has fixed a minimum and maximum limit to the percentage of

³ The mechanics of this procedure are discussed in the next chapter.

⁴ For an account of the reserve requirements of state banks that are not members of the Federal Reserve System, see *Provisions of State Laws Relating to Bank Reserves*, 1945, a study prepared for the Board of Governors of the Federal Reserve System.

For an historical account of American experiences with the regulation of bank reserves, see R. C. Rodkey's *Legal Reserves in American Banking*, 1934, *Michigan Business Studies*, Vol. VI, No 5.

required reserves leaving to the Board of Governors of the System the duty of determining just where, within the stated limits, the requirements shall stand at any particular time. The power to change reserve requirements was granted to the Board of Governors in 1935 to strengthen its attempts to regulate the volume of credit. Under this authority the Board can adjust reserve requirements up to a maximum level of double the minimum requirements previously in force.

The National Bank Act designates New York and Chicago as "central reserve cities" and certain other cities as "reserve cities," subject to the right of the Board of Governors to make changes in the classification as desired. In addition, the Federal Reserve Act permits the Board, by a vote of five, to modify the classification of banks in outlying areas of reserve and central reserve cities so as to reduce their reserve requirements. Under this provision the Board has reclassified most banks in those parts of Chicago and New York which are outside the main financial areas; and as a result, central reserve city banks, with but a few exceptions, include only banks in the main financial districts of those cities. In respect to branch banks, the reserve requirements for the whole bank is determined by the requirements applicable to the highest classification of city in which the bank maintains an office, whether the head office or a branch.

The present method of basing reserve requirements upon the city in which the bank is located has little justification. It is simply a practice taken over by the Federal Reserve System from the old national banking system. To be sure, banks located in reserve and central reserve cities are likely to carry substantial amounts of bankers' balances that require a greater degree of liquidity on the part of the bank than do ordinary deposits. But, since legal reserves are not actually relied on to provide liquidity, there appears to be little reason for requiring higher reserves for banks in one class of city than in another.

The reserve requirements in force in the period 1917-1935, the present minimum and maximum limits, and the requirements in force on February 1, 1951, appear in Table 5.

Method of computing required reserves. Central reserve city banks and reserve city banks compute their required reserves on the basis of their average daily net deposits (as of the beginning of each business day) over a period of one week. Country banks, on

TABLE 5
RESERVE REQUIREMENTS FOR FEDERAL RESERVE MEMBER BANKS *

	<i>On Net Demand Deposits</i>			<i>On Time Deposits</i>
	<i>Central Reserve City Banks</i>	<i>Reserve City Banks</i>	<i>Country District Banks</i>	<i>All Banks</i>
June 1917– Aug. 1936	13	10	7	3
Minimum-maximum requirements Jan. 1, 1950	13–26	10–20	7–14	3–6
Actual requirements, Feb. 1, 1951	24	'20	14	6

* On August 16, 1948, as an anti-inflationary measure, Congress granted the Board of Governors temporary authority to increase reserve requirements on demand deposits by not more than 4 percentage points over the existing statutory maximum and on time deposits by not over $1\frac{1}{2}$ percentage points. This meant that central reserve city bank requirements could be increased to 30 per cent, reserve city requirements to 24 per cent, and country bank requirements to 18 per cent, whereas time deposit reserve requirements could be increased to $7\frac{1}{2}$ per cent. This authority expired on June 30, 1949.

the other hand, calculate their reserve requirements on a semi-monthly basis. The required reserves against time deposits is calculated simply by applying the required reserve ratio to the average daily time deposits for the computation period.

Demand deposits against which reserves are to be carried are computed by deducting from gross demand deposits (1) the checks on other banks in process of clearing or collection; and (2) demand balances carried in incorporated banks other than the Federal Reserve Bank and foreign banks. Gross demand deposits include government and individual demand deposits, deposits of other banks, and certified and cashiers' checks outstanding. The "net demand deposits" resulting from the above deductions is the base to which is applied the required reserve ratio.

Methods of adjusting legal reserves. A member bank that finds its legal reserve position impaired may resort to any one of several methods for remedying the situation. The simplest and most direct way to increase reserves with the Federal Reserve Bank is

to transfer working balances carried with other banks, when they can be spared. A second method, almost as simple, is to reduce call loans made on the central money markets either directly, if the bank is so located as to be making direct loans of this sort, or indirectly, if its call loans are being made through city correspondents. This method is no longer used.

If neither of these methods is available or adequate to meet the bank's needs, readily saleable assets may be disposed of in the open market. Bankers' acceptances and short-time government obligations are particularly adapted for this use. Finally, the member may rediscount eligible paper with the Federal Reserve Bank or borrow from it in order to build up its reserve. In the long run, of course, as the ultimate method of increasing reserves, the loans and investments other than those mentioned above may gradually be scaled down.

Borrowed reserves. Over a short period of time, member banks sometimes find it advantageous temporarily to purchase or borrow reserves from other members which at the moment have an excess. Both the borrowing and the lending bank may profit from this transaction. The borrowing bank may wish to increase its balance at the Federal Reserve Bank for a short period in order to bring its average actual reserves to the required level for the computation period. The lending bank, on the other hand, holds excess reserves with which it is willing to part for a short period. The rate of interest on loans of "Federal funds," as such reserves are called, generally is somewhat lower than the prevailing open market rates on high-grade short-time paper and the Federal Reserve discount rate. But, on June 28, 1949, when the Federal Reserve Bank discount rate was $1\frac{1}{2}$ per cent and open market rates on prime bankers' acceptances were $1\frac{3}{16}$ of 1 per cent, Federal funds were quoted at a rate of $1\frac{7}{16}$ per cent.⁵

The process of lending reserves may involve the issue of a cashier's check by the borrowing bank (listed in its statement as money borrowed instead of deposits). The lending bank either issues a draft on the Federal Reserve Bank to the borrowing bank or arranges for a transfer by the reserve bank of funds from its reserve balance to that of the borrowing bank.⁶

⁵ *New York Times*, June 28, 1949.

⁶ *Federal Reserve Bulletin*, February 1930, p. 81.

Excess reserves. When the available supply of legal reserves exceeds the minimum legal requirements, the banking system is in possession of "excess reserves." This occurs whenever, for some reason or other, the banks are unable or unwilling to expand their loans and investments to the theoretical limits set by the available reserve funds. So long as a member bank is indebted to the reserve banks for rediscounts or bills payable, idle reserve funds will promptly be used to retire such indebtedness. Substantial quantities of member bank excess reserves do not appear, therefore, until member banks are largely out of debt to the reserve banks.

Excess reserves of member banks reached a peak of nearly \$7,000,000,000 early in 1941. Responsibility for this tremendous volume of excess reserves may be placed upon: (1) the open-market purchases of government obligations by the Federal Reserve Banks, which stood at about \$2,200,000,000; and (2) the importation of about \$15,000,000,000 in gold. When gold is imported through New York City, excess reserves appear first in the banks of that city. To some extent these reserves become distributed among the banks of the interior when the government and private concerns borrow or issue securities in the New York money market and spend the proceeds in the other parts of the country. But the banks of the interior, on the other hand, tend to return excess reserves to the city banks when they build up their balances with their city correspondents. Thus, interbank balances tend to rise and fall directly with the rise and fall of excess reserves in the country as a whole.

The excess reserves declined to modest proportions during the war years. Banks were compelled to convert their excess reserves into currency to meet the sharp increase in the demand for currency in circulation. This, with increased reserve requirements growing out of wartime deposit expansion, soon exhausted the excess reserves of member banks and caused them to sell Treasury bills and certificates of indebtedness to the Federal Reserve Banks to meet legal reserve requirements.

Criticism of present reserve requirements. The existing pattern of legal reserve requirements for banks is by no means ideal. A number of objections may properly be raised. First, the requirement that all legal reserves of member banks must be carried as deposits in the Federal Reserve Banks tends to discriminate

against member banks not located near the Federal Reserve Banks. Such banks, naturally enough, find it necessary to carry considerably more cash in vault (or till money) in proportion to their deposits than do banks located in Federal Reserve Bank cities. But such cash cannot be counted as legal reserve. These banks therefore suffer in comparison with the more fortunate members located near the reserve banks. In addition, they are at a disadvantage in comparison with competing nonmember banks, which can generally count vault cash in satisfaction of their legal requirements.

Second, the objection is properly made that the threefold classification of banks (country, reserve city, and central reserve city) for the purpose of determining the size of reserve requirements is outmoded and without justification. Differences in reserve requirements should be based more on the nature of deposits than on the city in which the bank is located.⁷

Third, it is unfair to banks which are members of the Federal Reserve System that nonmember banks should not be subject to changes in reserve requirements imposed by the Board of Governors in the pursuit of proper credit policy. The Board, therefore, has suggested that uniform reserve requirements should be imposed upon *all insured commercial banks*, both in the interest of fairness and effectiveness.

Questions for Study

1. a) Explain why legal reserve requirements have been imposed on American banks.
b) In contrast, British commercial banks have no legal reserve requirements. Does this fact make American banks more liquid and secure than British banks?
2. a) Why do banks need "working reserves" in addition to their legal reserves?
b) What forms do these working reserves take?
3. a) Which class of bank carries the greatest relative amounts of vault cash?
b) Which class carries the greatest relative amount of "due from banks"?
4. a) How is the base calculated for computing reserve requirements for member banks?

⁷ Cf. *Annual Report of the Board of Governors of the Federal Reserve System*, 1948, p. 7.

- b) What assets of a member bank can be classified as 1) primary reserves? 2) legal reserves?
5. Suppose that a member bank's legal reserve during the first half of the computation period shows a 10 per cent deficiency. What steps can and should the bank then take?
 6. a) What are "excess reserves" and why were they so high in 1941?
b) What caused their disappearance in the 1942-48 period?
 7. If legal reserves contribute little to bank liquidity, what useful purpose do they serve?
 8. What objections may properly be raised to the reserve requirements for Federal Reserve member banks?
 9. What powers does the Board of Governors have over member bank reserve requirements? Why were these powers given?

Clearing and Collection of Checks

IF ALL DEPOSITS WERE PAYABLE ONLY TO THE DEPOSITOR HIMSELF, interbank relationships would be simple. Instead, demand deposits are paid upon written negotiable orders or checks. When the payee or receiver of a check happens also to be a depositor of the bank on which it is drawn, only a bookkeeping entry is required to complete the payment. The deposit of the drawer of the check is reduced and that of the payee is increased by the amount of the check. A large proportion of checks drawn, however, are transferred to persons who are not depositors of the drawee bank. In that case checks are deposited in other banks for credit and these banks collect the checks from the bank on which they are drawn. As a service to depositors, banks normally undertake to collect checks drawn upon other banks. This service may be free or a charge may be made. In any event, the banks credit depositors' accounts with the amount of checks deposited and collect the checks from the drawee banks.

This check collection performed by banks for their customers has two important consequences. First, it makes possible the widespread use of checks as a means of payment. Perhaps 90 per cent or more of all the money payments in the United States are made by checks against demand deposits. Without this development, the usefulness of demand deposit banks would be greatly reduced. A second consequence of check collection is that it necessitates the existence of an elaborate set of devices whose main function is to facilitate the collection process. These devices fall into two general classes: (1) the local clearinghouses for collecting checks on local banks; and (2) the collection system for handling

the checks drawn on out-of-town banks. Each of these will be examined in turn.

THE CLEARINGHOUSE

The use of the clearinghouse for exchanging checks arose out of the obvious convenience of such a practice. Without a special meeting place where the representatives of the banks could assemble, it would have been necessary for messengers from each bank to make separate calls on other banks for the purpose of presenting and collecting checks received from depositors and making settlements therefor. This troublesome procedure is avoided by the use of the clearinghouse.

The responsibility for smooth operation of the clearing function cannot be left to mere chance. Hence banks wishing to clear checks through the clearinghouse form an organization called a *clearinghouse association*. Through this association, rules and regulations are set up for the control of the clearing functions. A uniform procedure is worked out so that the clearing of checks goes on smoothly. Messengers must arrive with checks at a stated time. The checks for clearing must be properly sorted and recorded. Settlements must be made in certain approved ways. Moreover, the banks find the clearinghouse association a convenient device for introducing co-operative action in matters other than the mere clearing of checks. For example, competitive practices are frequently regulated and standardized through the association. It follows, therefore, that some form of administrative control is necessary. This control is normally centered in the clearinghouse committee, made up of influential bankers elected by the representatives of the members of the association. This committee formulates the regulations governing the various operations of the clearinghouse, whereas the responsibility for their execution is usually vested in a manager. The voluntary association rather than the corporate form of organization is most favored, as it gives greater elasticity of function as well as more effective control over the members than would be afforded by the more rigid corporate form.

The clearing mechanism. The clearing operation is itself simple in principle. Before being sent to the clearinghouse, each check must be inspected to make certain that it is properly endorsed by the payee and that it appears to be regular in every

way. Further, it is endorsed with a rubber stamp bearing the date, name, clearinghouse number of the clearing bank, and some notation to the effect that payment is received through the clearinghouse. The checks are then sorted according to the bank on which they are drawn, and the amounts are totaled and recorded on a slip which is attached to each package of checks.

At the time appointed for clearing, the messengers from each bank go to the clearinghouse and exchange the packages of checks so that each messenger comes into possession of the checks drawn on his bank. On a specially prepared statement blank containing the names of the other clearing banks, the messenger records the amount of the checks delivered to and received from each of the other banks and computes the total of checks brought to and received from the clearinghouse. If the amount brought to the clearinghouse exceeds the amount received, the bank has a favorable balance at the clearinghouse, and the net excess will be paid to it. On the other hand, if the checks received from the clearinghouse exceed those brought, the bank is a net debtor and must pay the difference to the clearinghouse.

In some cities the clearing of checks is formally carried out more than once a day. Further, large banks frequently are able to expedite their bookkeeping by informally exchanging checks drawn on each other at more frequent intervals. In such a case the drawee bank gives the presenting bank a receipt for the total amount of checks received, and the receipt is put through the clearinghouse at the regular time in the same fashion as a check. In larger cities, small banks not wishing to assume the responsibilities of membership or unable to qualify arrange to have their checks cleared through a member bank.

Methods of settlement. One principle of settlement prevails. The debtor banks pay only the net amount of their debts to the clearinghouse. The creditor banks receive in turn only the net amount due them. Thus the settlement is made with a minimum amount of trouble.

In small city clearinghouses, debtor banks commonly make settlement in acceptable drafts on city correspondents or on the Federal Reserve Bank of the district. In Federal Reserve Bank cities, the manager of the clearinghouse provides a certified list of clearing balances with instructions to debit the reserve balance of debtor banks and credit the reserve balance of creditor banks.

Thus settlement is made by book entries at the reserve bank. In the past, clearinghouses made settlement by the use of clearinghouse certificates. In such a case each member of the clearinghouse deposited with the manager a quantity of lawful money, usually gold or gold certificates, and received in return clearinghouse certificates in convenient denominations and payable only to a member of the clearinghouse. These certificates made it possible to make settlements conveniently and without risk of loss.

Other functions of the clearinghouse. Bankers find that collective action is desirable for three distinct reasons: (1) excessive competition is likely to lead to practices that impair a banker's profits; (2) bank failures must be prevented as far as possible if banks are to be spared the consequences of loss of public confidence; and (3) when difficulties do arise, in spite of whatever protective measures are taken, mutual aid is needed to withstand the shock.

The clearinghouse association forms a convenient means for accomplishing the needed collective action. To prevent undesirable competition, the clearinghouse association lays down for its members rules which may cover a variety of practices. It may, for example, fix the maximum rate of interest members may pay on deposits, the uniform charge for collecting out-of-town checks, or the required minimum balances and service charges. Depositors frequently resent such collective action taken by banks on the ground that it is monopolistic in its effects. A fair appraisal of the results, however, must recognize some positive public benefits. Cutthroat competition among banks is almost certain to bring trouble. The bank which pays excessive interest rates or furnishes too many free services is a source of danger to the whole business community. The search for profits to offset the abnormal cost of such competition ultimately leads to the making of speculative loans and investments, with disastrous results to both the bank and the public alike.

The second general reason for collective action through the clearinghouse is found in the necessity for preventing failures among banks. Clearinghouse associations, therefore, often require regular reports of the condition of member banks. In some cases the clearinghouse goes so far as to establish a system of examination for all members. This practice began in Chicago in

1906 as a consequence of the failure of three banks controlled by John Walsh, which had been badly mismanaged. The Chicago Clearing House Association had been warned by the state and national bank supervisors that the banks were to be closed immediately. To allow these banks to fail outright would have been a dangerous blow to the local credit situation, which was already overextended. The members of the clearinghouse, therefore, agreed to guarantee the deposits of the Walsh banks and to take them over for liquidation. This was a costly undertaking, for at one time as much as \$7,000,000 was advanced by the banks, although the ultimate loss after fifteen years of liquidation was reduced to about half that amount. Somewhat saddened by the experience in offsetting the results of the Walsh failures, the members of the Chicago Clearing House determined to prevent, as far as possible, recurrence of such an episode. An expert examiner, with several assistants, was employed and given authority to examine all the clearing banks. For many years, in fact up to the difficulties of 1930 to 1933, it was the boast of the Chicago Clearing House Association that no depositor had lost in the failure of any banks which were clearinghouse members. True, some few member banks had failed, but their obligations had been assumed and their assets liquidated without loss either to depositors or to the clearinghouse banks.

The advantages of a competent form of clearinghouse examination are several. First, the clearinghouse examiner has a more intimate knowledge of the affairs of borrowers and the whole banking system of the city than have either the state or the national examiners, who get only a partial view of the situation. Further, the authority of clearinghouse examiners is more effective than that of state and national examiners. The latter necessarily must confine their criticisms largely to violations of banking law, since it is only such violations which are within their power to correct. Moreover, before 1933 examiners had no weapon for compelling compliance, save the threat of closing up the bank altogether. The clearinghouse examiners' criticisms, however, may be laid before the clearinghouse committee and be made the basis for expulsion from the clearinghouse association. To be denied clearing privileges or to be expelled from membership is a serious matter, and such a threat is likely to bring the erring banker into line.

Another regulatory activity of clearinghouse associations has to do with the setting up of banking standards such as minimum reserve requirements, capital requirements, limitations on real estate loans, and investment of capital in fixed assets. Such rules may and do exist in the absence of a system of examination.

In spite of any precautions that may be taken, conditions may arise requiring more than mere prevention. Banks may become involved, in spite of careful supervision, and endanger the whole bank structure. Hence, whether or not clearinghouse examinations are used, it has sometimes been necessary for local banks to take steps to prevent loss by depositors. At such times clearinghouse associations have collectively guaranteed the deposits of the failing bank and employed a liquidating agent to minimize the loss to themselves by avoiding costly receiverships.* Or, they may "sell" the business of failing banks to some member of the association which undertakes to pay a fixed sum for the good will and probable value of the deposits. This bank then takes over the liabilities under a guaranty from the association and acts as liquidating agent.

Before the Federal Reserve Banks were created, with power to assist banks by lending them cash, the clearinghouse associations sometimes found it desirable to assist members that were in need by permitting them to meet their clearinghouse balances with clearinghouse loan certificates. These interest-bearing certificates were secured by the deposit of approved securities with the clearinghouse committee by the bank for whose benefit they were issued and were the obligation of the association as well as of the individual bank resorting to their use. By means of such certificates banks were able to carry on the local clearing of checks in spite of panic conditions that would otherwise have depleted some banks' cash to such an extent as to impair their legally required reserves.

COLLECTION OF OUT-OF-TOWN CHECKS

Two methods are available for presenting and collecting checks drawn on out-of-town banks. The first and the one most commonly used is that provided by the Federal Reserve Banks; the second is the resort to correspondent banks in other cities. We shall examine first the Federal Reserve collection system.

Federal Reserve collection system. The Board of Governors, under the authority of the Federal Reserve Act, arranges to have

each Federal Reserve Bank collect checks for such of its member banks as desire to avail themselves of its privileges and for such nonmember state banks and trust companies as may maintain adequate balances with the reserve banks. Such nonmember state banks and trust companies are called *nonmember clearing banks*. Only checks drawn on "par banks" (banks that agree to remit the full face value of all checks presented through the mail) can be collected through the Federal Reserve Banks.

The system of check collection begins with the bank that has received out-of-town checks from its customers. Such checks must be prepared for collection in somewhat the same manner as local checks intended for the clearinghouse. They must be inspected for the endorsement of the payee and for any evidence of irregularity. They must then be stamped with the bank's endorsement. This is in the form of a special endorsement calling for payment to "any bank or banker," thus minimizing the danger of loss in case the checks should be stolen.

This work of preparing the checks for collection is done by the "transit department" in the larger, departmentalized banks. Proper record must be made of each check for the bank's own use, and an identifying list is prepared to accompany the checks when they are sent in for collection.

If the collecting bank is a member, or a nonmember clearing bank, the checks are sent next to the Federal Reserve Bank, where the sending bank receives deferred credit. The reserve bank in turn endorses the checks and starts the process of collecting them from the drawee banks. Four possibilities arise at this time:

1. If the checks are drawn on banks in the city in which the reserve bank itself is located, they will be presented directly to the drawee bank or through the clearinghouse of which the reserve bank is a member.
2. If the checks are drawn on member or nonmember clearing banks in other towns or cities of this district, the reserve bank will mail the checks directly to the drawee bank and request a remittance. After the drawee bank has had an opportunity to inspect the checks for genuineness, it will remit the amount to the reserve bank. In doing so it has a choice of: (a) drawing a draft on its reserve account with the reserve bank; (b) sending a draft on other banks located in the Federal Reserve city; (c) shipping currency

at the expense of the reserve bank; or (d) making any other form of payment acceptable to the collecting reserve bank. If a remittance is not promptly made, the amount will be deducted from the member's reserve account in any event; promptness in remitting is thus desirable.

3. If the checks are drawn on nonmember banks outside the Federal Reserve city, the reserve bank may send them directly to the nonmember banks and request a remittance, or present them through a near-by member bank, which collects and remits.

4. If the checks are drawn on a bank in another Federal Reserve district, the collecting reserve bank sends the check to the reserve bank of the other district. The check then proceeds through the ordinary collection channels of that district, and settlement is made between the reserve banks through the Interdistrict Settlement Fund, which will be described later.

FEDERAL RESERVE BANK OF CHICAGO

CHICAGO HEAD OFFICE TIME SCHEDULE

(Revised January 12, 1951)

Immediate Credit

Immediate credit will be given for the following items when received within the applicable closing time:

When received in time for presentment through the Chicago Clearing House (Monday through Friday)—Items drawn on Chicago banks.

When received by 10 A.M. (Monday through Friday)—Checks on the Treasurer of the United States (items \$500 and over 12 noon).

When received by 2 P.M. (Monday through Friday)—

Checks on the Federal Reserve Bank of Chicago

Officers' checks of other Federal Reserve Banks

Federal Reserve Exchange Drafts

Deferred Credit

Credit for all other items when received within the following applicable closing times will be given as specified in the availability schedule below:

Items payable outside of the City of Chicago—

When received by 1 P.M. (Items \$1,000.00 and over 4 P.M.) Monday through Friday. Saturday, not also a legal holiday, 12 noon but with the understanding that any such checks received after 10:30 A.M. to be processed on Saturday may or may not be forwarded for collection until the following business day.

AVAILABILITY SCHEDULE

One Calendar Day

Atlanta	Little Rock
Birmingham	Louisville
Buffalo	Memphis
Charlotte	Minneapolis
Cincinnati	Nashville
Cleveland	New Orleans
Dallas	New York
Denver	Oklahoma City
Detroit	Omaha
Helena	Pittsburgh
Jacksonville	St. Louis
Kansas City	St. Paul
	Salt Lake City

Two Calendar Days

Baltimore	Philadelphia
Boston	Portland
El Paso	Richmond
Houston	San Antonio
Los Angeles	San Francisco
	Seattle

Two Business Days

All other items drawn on par banks located within the Continental United States.

Checks drawn on banks not located in a Federal Reserve city but bearing upon their face a notation that they are payable at or receivable for immediate availability in a Federal Reserve city will be accepted on the same basis as checks drawn on banks located in that city.

As we observed at the beginning, the original bank sending checks for collection to its Federal Reserve Bank receives deferred credit only. After collection has been completed by the reserve bank, the proceeds of the checks are credited to the member bank's reserve account. In order that member banks may know when checks sent to the reserve bank for collection will be fully available for use, each Federal Reserve Bank has set up a time schedule showing the number of days that must elapse before checks drawn upon banks located in different areas will be avail-

able for full reserve credit. The schedule prepared by the Federal Reserve Bank of Chicago is shown on page 150. As a result of action of the Board of Governors of the Federal Reserve System, the maximum time which may elapse before full credit is given is now limited to two days.

Member banks are not required to utilize the collection facilities of their reserve banks. They may and often do send out-of-town checks to their city correspondents, who in turn send them to the Federal Reserve Bank for collection or collect directly from the drawee bank.

*Use of Interdistrict Settlement Fund.*¹ Checks to be collected in other districts are forwarded by the reserve bank that first receives them to the reserve bank of the district in which the checks are payable. This bank then presents the checks in the usual manner to the banks on which they are drawn, receives back remittance therefor, and in turn remits the collected funds to the first reserve bank from which the checks were received. This remittance between reserve banks is accomplished by daily telegraphic communication from each reserve bank with the Board of Governors of the Federal Reserve System at Washington, D. C., which holds the Interdistrict Settlement Fund. Each Federal Reserve Bank has book credit against the fund for its share. At the end of each business day, each reserve bank reports to the Board of Governors the funds collected by it for each other reserve bank. The board thereupon determines the net changes in each reserve bank's claims to the Interdistrict Settlement Fund and notifies the several banks the following morning of the size of their shares of the fund. In 1949 the fund amounted to about \$8,000,000,000. During the year 1948, about \$450,000,000,000 of items were cleared through the fund.

In some instances a saving of time can be accomplished by the introduction of short cuts in the routing of checks for collection. Member banks sometimes are able to shorten the time of collection by sending checks to Federal Reserve Bank branches. To aid in such practices, availability time schedules are provided similar to that for the head office of the Chicago Federal Reserve Bank shown on page 150. Also, under special arrangements with the reserve bank, one member may send checks drawn on another

¹ Formerly called the *Gold Settlement Fund*.

member directly to the drawee bank and notify the reserve bank, which credits the collecting bank's reserve account upon receipt of remittance from the drawee bank. Interdistrict collection time may also be reduced by special agreements that authorize banks to route checks directly to the reserve bank of another district for the credit of the reserve bank of the sending bank.

Collection of checks without use of Federal Reserve Bank facilities. Although the Federal Reserve Banks furnish excellent facilities for the collection of checks for member and nonmember clearing banks, a substantial number of checks are collected without the use of the reserve banks. As was observed before, member banks sometimes prefer, for one reason or another, to collect through city correspondents rather than through the reserve bank. For example, a member bank in Lafayette, Indiana, might wish to send its checks drawn on Indianapolis or the surrounding area to its Indianapolis correspondent, which would be in a position to make collection through the Indianapolis clearinghouse and grant immediate credit, whereas if they were sent to the Federal Reserve Bank of Chicago for collection, the checks would not be added to the reserve credit until two days after receipt of the checks by the Chicago bank. Thus, regardless of the use which the Lafayette bank wished to make of its funds, they would become available two days sooner by collecting through Indianapolis. Frequently, member banks find it more convenient to collect checks drawn on banks located near the reserve bank through correspondents in the reserve city. The real advantage of using a city correspondent as a collection agency in such a case is the convenience of accumulating balances with the city correspondent by sending checks to it for collection instead of collecting through the reserve bank and transferring the funds subsequently to the correspondent. It must be remembered that member banks still find it necessary to maintain balances with city correspondents in spite of the operations of the Federal Reserve System. City correspondents are important links in the process of making loans on the call loan market and in purchasing commercial paper, bankers' acceptances, and bonds. Further, they are useful in furnishing customers with drafts on other cities, which are still frequently needed in spite of the increased acceptability of ordinary checks. Likewise, any connection which the smaller banks have with the foreign exchange market is through their city correspondents. Finally,

country banks call upon their city correspondent banks for miscellaneous types of services not available from the reserve bank, including the furnishing of credit information desired by both the bank itself and its customers.²

Collection of checks by nonmember banks. The nonmember bank, unless qualified as a clearing nonmember, has no direct access to the clearing facilities of the reserve banks. It does have indirect access, however, through its member bank correspondents, which cheerfully undertake the task of collection in return for the favor of the nonmember's deposit.

Only one form of check is denied access to the reserve bank collection system—namely, checks on nonmember banks that refuse to remit at par for checks presented through the mails; *i.e.*, charge exchange. Checks drawn on these banks must be collected through the correspondent bank system.

The nonpar bank and the exchange charge. It is important to understand just what is involved in the *exchange charge* made by the nonpar banks. Briefly it is this: When checks drawn on such a bank are sent to persons or firms located in other cities, and are deposited in the banks of those cities, they are returned by mail to the drawee bank for payment. The latter, instead of remitting the sending bank the *full amount* of checks presented for payment, remits the face amount of the checks minus an exchange charge. This charge commonly amounts to one-tenth of 1 per cent of the face of the checks. In justification for this practice, the bankers claim that their contract with the depositor is to pay cash at the bank's own window. To remit to some out-of-city banker through the mails involves an added burden of carrying balances with city correspondents against which they can draw drafts in payment. For this extra trouble they make an exchange charge. Actually, however, the excuse just given is not at all a valid one. Carrying balances with city correspondents is an indispensable practice of country banks, for through such correspondents the country bank must collect out-of-town checks deposited with it by

² H. Parker Willis believed that this dependence of country banks upon their city correspondents is due to the pressure exerted by the city bankers upon the Federal Reserve Banks to prevent the latter from performing correspondent services. He reported that at first the Federal Reserve Bank of New York offered full correspondent services to its members but later withdrew them to avoid antagonizing the big city banks. *The Theory and Practice of Central Banking*, New York, Harper & Brothers, 1936, p. 92.

its customers. The truth is that the practice of charging exchange arises from the simple fact that it is profitable! It is profitable because the nonpar bank pays less than par on its own checks, although it is able to collect the full face amount of city-bank checks that it sends to its city correspondent for collection. In support of this contention one need but note the anguished and enraged cries of country banks when the Federal Reserve System undertook to abolish the practice of charging exchange by using agents to present checks for payment at the window of the nonpar banks. The reserve banks were compelled to give up this attempt when state legislatures hastened to come to the aid of the nonpar banks by passing laws designed to prevent their being coerced into giving up the exchange charge.³

The nonpar banks are of necessity small state banks located mainly in rural areas where they need not compete with banks that belong to the Federal Reserve System, which must pay their checks at par. The Great Depression of the 1930's saw a substantial increase in the number of nonpar banks. The excuse appears to have been the urgent need for some source of increased profits. But, since 1940, the number of banks on the nonpar list has sharply diminished. In 1950, of the 14,051 banks having checking accounts, only 1,864, carrying less than 2 per cent of the total demand deposits, were nonpar banks. In 29 states all banks were on the par list. Twelve states which had nonpar banks in 1938 had none in 1950. In a few states, laws have been passed making the par payment of all checks mandatory.

It is important to distinguish between the exchange charge made by nonpar banks and the collection charge that banks make for cashing out-of-town checks for customers. The collection charge compensates the bank for advancing the money and for the trouble and delay involved in collecting the check. Should the check be drawn on a nonpar bank, the exchange charge that the drawee bank will make in paying the check is quite properly included in the collection charge.

Collection of nontransit items. The collection facilities of the Federal Reserve Banks are not limited in use solely to the collection of checks. Section 13 of the Federal Reserve Act permits the reserve banks to receive, for collection, maturing notes and bills

³ Exchange charges are specifically authorized by the laws of Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Dakota, and Tennessee.

of exchange. A member bank owning a note or bill of exchange payable in another city may therefore utilize the services of the reserve banks to effect its presentment and payment. If the note or bill is collectible without cost through some member bank, the reserve bank, on receipt of the proceeds, credits the full amount to the reserve account of the member sending it in for collection. If the reserve bank is compelled to pay a collection fee to the bank presenting and collecting the instrument, it credits the account of the original member for the amount, less the collection charges. Items sent to other Federal Reserve districts for collection are settled in the same general manner as interdistrict check collections.

Federal Reserve exchange. It was the custom of banks in the days before the establishment of the Federal Reserve collection system to maintain balances in reserve and central reserve cities. These balances were desirable and necessary in order to handle the task of getting checks collected and remitting for checks presented by other banks through the mails. Furthermore, such balances were useful to draw against when customers desired to use drafts on the financial centers instead of personal checks for making payments.

Introduction of the Federal Reserve System, with its requirement of balances carried with the reserve banks, made it desirable to reduce the need for carrying balances with city correspondents. One step in this direction was the development of the par check collection system already described. Another was to provide facilities, through the Federal Reserve Banks, for furnishing drafts to customers payable on the money centers of the country. A member bank may request permission to draw Federal Reserve Exchange Drafts and when permission is granted, may draw such drafts against its balance in the Federal Reserve Bank. These drafts have the advantage over ordinary drafts drawn by members against their reserve accounts in that they are receivable for *immediate* credit at *any* Federal Reserve Bank or branch. When a member draws Federal Reserve Exchange Drafts it must notify its Federal Reserve Bank daily of the number and amount of drafts drawn. The amount is then deducted immediately from the drawer's reserve account.

This attempt to establish the use of drafts on the reserve banks as a means of interdistrict remittances in place of drafts on city correspondents has largely proved fruitless, owing to the continu-

ation of the practice of carrying bankers' balances with city correspondents. By performing various services, the city correspondents have made it worth while for country banks to maintain their deposits with them for use as working reserves.

Telegraphic transfers. An additional service that the reserve banks offer to members is the right to utilize the leased wire system, maintained between the Board of Governors at Washington and the several reserve banks and branches, for the transfer of funds by wire. Any member bank may request its reserve bank to transfer to any other member bank, whether located within or outside its own district, any sum of money in multiples of \$1000. Such a request may be sent to the reserve bank by mail or by telegram sent "collect." On receipt of this request, the reserve bank deducts the amount from the member's reserve account. If the member bank that is to receive the credit is located in the same district as the sending member, the transfer is merely a matter of a bookkeeping entry. If the bank to receive credit is located in another district, the reserve bank will telegraph the reserve bank of that district to credit the receiving member bank's reserve account. Settlement between reserve banks is made daily through the Interdistrict Settlement Fund. The member bank receiving the credit is advised by mail by the reserve bank when the transfer is complete. In special cases involving large sums, and when a request is made, the reserve bank advises the receiving member by telegraph at the member bank's expense.

The services just described are performed free for member banks over the private wire system of the reserve banks. In addition, other telegraphic transfers over commercial wires will be made at the expense of member banks. Such transfers may be for any amount and will be accepted from and paid to member banks only, but may be made for the use of any other bank or business firm. Nonmember clearing banks may use the system to transfer funds in multiples of \$100 provided they pay the telegraph charges.

Summary. The par collection instituted by the reserve banks has done much to increase the acceptability of bank checks throughout the country in making out-of-town as well as purely local payments. At most they suffer a discount of one-tenth of 1 per cent charged against the individual or firm depositing them for credit as a service or interest charge to compensate the collecting bank for the time and trouble involved in making the collection.

Regardless of seasonal changes in the direction of trade, we have in a bank check drawn on a par bank an instrument acceptable at par. For purposes which are not adapted to the use of personal checks, the Federal Reserve System provides exchange drafts payable at par at any reserve bank. In addition, member banks have available the telegraphic transfer system, which enables them, without delay or cost, to build up their accounts with city correspondents at the expense of their reserve account with the Federal Reserve Bank, thus placing themselves in a position to lend in the central money markets and to provide drafts on city correspondents without expense, if that method of furnishing exchange drafts on other cities is preferred to the use of the Federal Reserve exchange drafts.

Before the Federal Reserve facilities were developed, the seasonal shifts in the demands for funds in different parts of the country resulted in the appearance of a premium or discount, as the case might be, on drafts payable in distant cities. For example, suppose country banks during the summer lull desired to transfer funds to their correspondent in New York City. Two ways of making the transfer existed: (1) currency might be shipped; or (2) drafts payable in New York City might be purchased if any were available. Such drafts would sell at a premium equal to the cost of shipping currency. In the autumn, when country banks wished to recover their funds from the city banks, they might pay transportation charges on currency or sell drafts on New York. The discount on such drafts would again appear equal to the cost of shipping currency. At the present time, we possess as nearly perfect a system of making payments quickly and with small cost as one could desire.

Questions for Study

1. How do banks usually settle their adverse clearinghouse balances? Does your town have a clearinghouse? If so how are settlements made?
2. Clearinghouse associations often exercise supervision and restraint over their banks. a) What form do these interferences take? b) Why are such restraints sometimes more powerful than those exercised by state and national examiners?
3. a) Can you trace the process by which a check drawn on a bank located in another Federal Reserve district is presented and paid?

- b) Making use of the availability schedule on page 150, estimate the time it takes your local bank to realize on a check drawn on some selected city after it has cashed this check for you at its window.
- 4. When will member banks utilize the services of their city correspondents, rather than those of the Federal Reserve System, for collecting out-of-town checks?
- 5. What is the transit department of a bank? What is its work?
- 6. How do banks which are not members of the Federal Reserve System get the benefits of the System's collection services?
- 7. What is the Interdistrict Settlement Fund? How is it used?
- 8. a) What are nonpar banks?
 - b) Why do they refuse to remit at par?
 - c) Why do their customers continue to patronize them?

Part III

Bank Earning Assets

Bank Loans to Business

ALTHOUGH A BANK MAY RECEIVE INCIDENTAL REVENUE FROM rentals of unused office space and safety deposit vaults, its main income is in the form of interest on its loans and investments. When speaking of a bank's "earning assets," therefore, one generally is referring to its loans and investments. Before we embark on a study of particular loan and investment practices of commercial banks, it is well for us to get a general picture of their credit activities as evidenced by the over-all nature of their earning assets.

BANK EARNING ASSETS

First, it is necessary to observe the difference in nature of and the relative magnitude of the two major classes of earning assets—loans and investments. Bank loans are the channel through which banks provide the essential source of funds to business firms whose equity capital requires supplementing with borrowed funds. It is through its loan portfolio that a bank makes its direct contribution to the economic needs of business. Investments, in contrast, bear little direct relation to the needs of the business that originates the securities. Corporate bonds, when eligible for bank purchase, must be seasoned securities of investment quality. They are bought as an outlet for the excess funds of the bank rather than in response to the needs of business. But, during times of national emergencies, investments of banks in government securities, although not responding to the needs of business, are in no small degree in response to the credit needs of the Treasury.

Traditionally, commercial bank credit has mainly taken the form of loans. In 1914, before World War I, investments of

national banks were less than 23 per cent of their total earning assets; and as late as 1929, they amounted to less than 30 per cent. During the depression years of the 1930's, bank loans declined and banks sought to bolster the shrinking volume of their earning assets by purchasing securities, mainly obligations of the United States Treasury. By 1939 security investments had risen to 59 per cent of bank earning assets. The impact of government borrowing during the war years that followed accelerated the rise in relative importance of bank investments, as may be readily seen by reference to Chart 4.

CLASSIFICATION OF LOANS

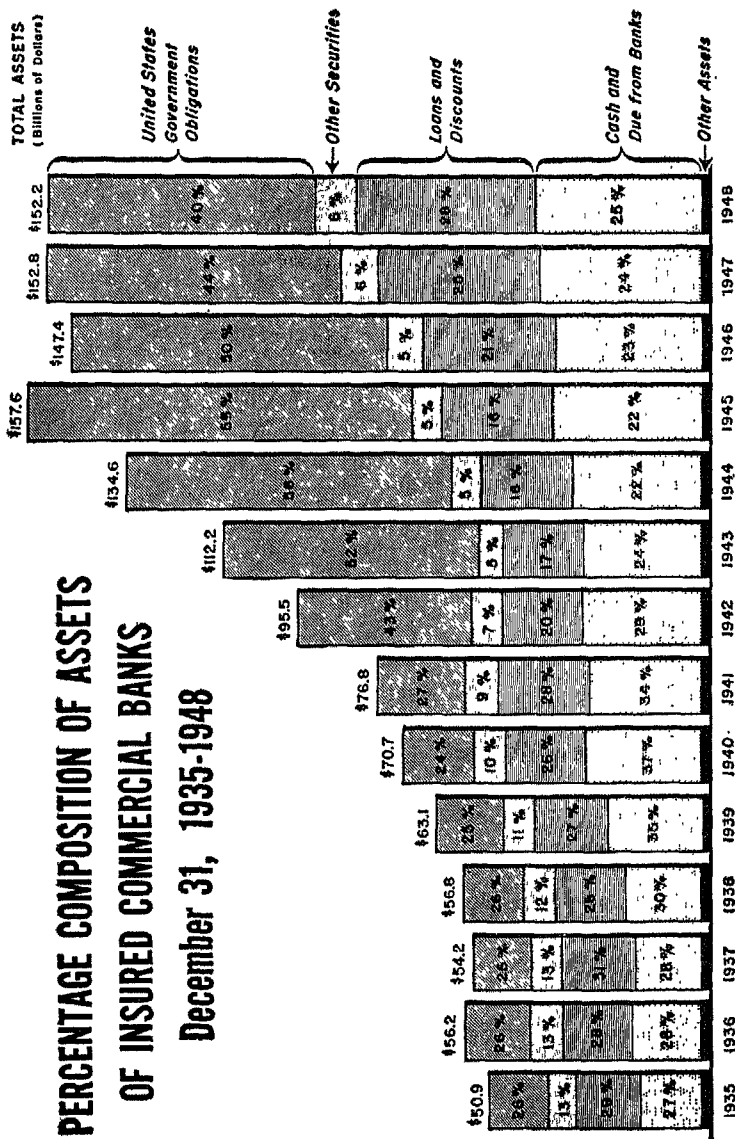
Further to illuminate the all-over picture of bank earning assets, bank loans may be classified in three distinct ways, according to the existence or nonexistence of special security, the purpose of the loan, and the location of the borrower.

Secured and unsecured loans. When the lender obtains some protection over and above that afforded by the borrower's signature on the note, the loan is said to be *secured*. The added protection that constitutes the security may arise from the pledge of securities, documents of title to chattels, or the chattels themselves, or from a lien or mortgage on real or personal property. Sometimes the security takes the form of an accommodation endorsement or cosigner who guarantees payment. In contrast, unsecured loans give the bank a right only to sue the debtor and get a judgment against him if the note is not paid at maturity. In this case the bank must take its chances along with any other general creditors seeking to collect from the defaulting debtor. Naturally, bankers like to make secured loans whenever possible but the credit standing of many borrowers, especially business firms, is sufficiently high that banks freely lend to them without security.

The purpose of the loan. In their published reports banks classify their loans according to the purpose behind them. The classifications include:

1. Loans for purchasing and carrying securities (security loans).
2. Loans to business (commercial and industrial).
3. Agricultural loans.
4. Real estate loans (for the purchase and improvement of real estate).
5. Consumer loans.
6. Other loans.

PERCENTAGE COMPOSITION OF ASSETS OF INSURED COMMERCIAL BANKS December 31, 1935-1948



Source: Assets and Liabilities, December 31, 1948, Operating Insured Commercial and Mutual Savings Banks, Federal Deposit Insurance Corporation.

CHART 4.

Chart 5 shows the relative importance of each of these classes of loans.

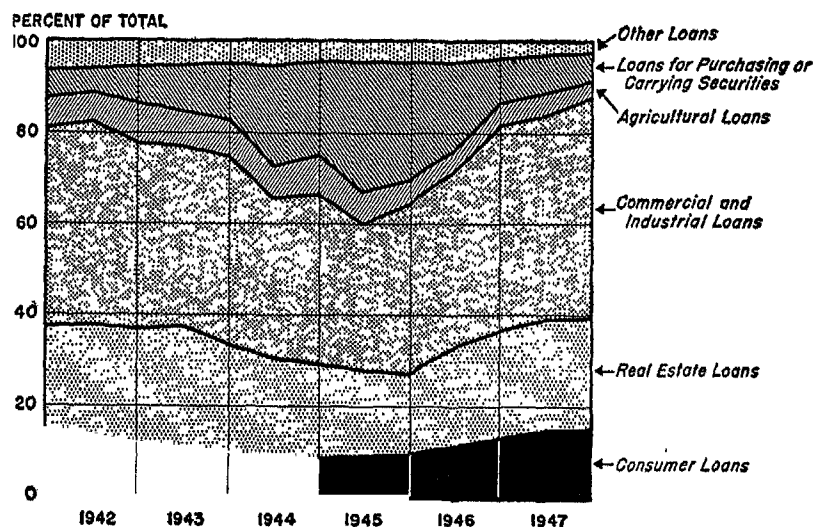


CHART 5. CHANGE IN COMPOSITION OF LOANS OF INSURED COMMERCIAL BANKS. COMMERCIAL AND INDUSTRIAL, CONSUMER, AND REAL ESTATE LOANS HAVE MADE UP AN INCREASING PROPORTION OF TOTAL LOANS SINCE THE WAR. Source: *Assets and Liabilities*, December 31, 1947, Operating Insured Commercial and Mutual Savings Banks, Federal Deposit Insurance Corporation.

Location of the borrower. Finally, it is helpful to classify loans according to the location of the borrower. For this purpose it is possible to divide loans into (1) open-market loans; and (2) customers' loans made to the bank's own customers. Open-market loans include bankers' acceptances, prime commercial paper, and loans to brokers on the New York stock exchange. Such loans are made by bankers either on the strength of the reputation of the obligor, as is true in the case of acceptances and open market commercial paper, or on the security provided by collateral offered to secure the loan. Generally such loans are made through dealers or middlemen. Open-market paper is highly liquid and of high quality, and consequently returns a rate of interest inferior to the rates on customers' loans. The latter, often made to borrowers who are unable to benefit from the competition of the central money market, and bearing the privilege of renewal, on the average yield a higher rate of return than does open-market paper.

BUSINESS LOANS (*Commercial and Industrial*)

We are indebted to the Board of Governors of the Federal Reserve System for its study of business loans of member banks. This survey gives us detailed information, based on sample studies,¹ as of November 20, 1946. Since member banks account for a very large fraction of commercial bank activities of the country, the results of this study are representative of the business loans of the country as a whole.

The length of business loans: short-term loans. Traditional opinion has always been that commercial bank loans should be of short maturities. Such loans are often made for 30, 60, or 90 days, and are designed to enable the borrower to pay for his merchandise and make sufficient sales to provide him with funds for repayment. In other words, they are expected to be self-liquidating in character. Such maturities are justified on the grounds that they meet the typical commercial credit needs of business, and in addition, embody a liquidity desirable for commercial banks with demand deposit liabilities.

A practical reason for the belief in the importance of short-term loans for commercial banks rests upon experience. The English commercial banks have always been largely occupied with the financing of trade and commerce. American banking practices have to some extent followed the pattern of the English system with emphasis upon short-term loans to business. In spite of this adherence to the principle of short-term loans, bankers have been faced with the fact that many of their customers require working capital for periods longer than the three months generally considered the longest maturities appropriate for commercial loans. In actual practice, therefore, banks have made three-months loans with the understanding that they might be renewed so long as the borrower's credit position remained favorable.

Developments since 1930 have led to a re-examination of this rule that commercial banks should limit themselves to short-term commercial loans. First, modern business, operating on a large scale and fortified with ample working capital through security issues, finds it unnecessary to depend upon short-term loans to

¹ *Federal Reserve Bulletin*, March, June, 1947. Cf. also Jacoby, N. H. and Saulnier, R. J., *Business Finance and Banking*, National Bureau of Economic Research, 1947.

anything like the extent required by business in previous years. The bankers, therefore, have seen the short-term loan demand drop away sharply. Second, as a result of the depression, many meritorious borrowers found themselves with their supply of longer-term working capital seriously depleted. This was an especially serious problem for many smaller business houses. The banker, therefore, sought new outlets for his loanable funds, which explains in part the vast expansion of security holdings of banks since 1929. At the same time, it has encouraged the banker to experiment with loans of a type previously considered outside the province of the commercial banker.

The term loan. In general, bankers in the past attempted to steer clear of loans to business for continuous working-capital purposes. Unlike loans to provide short-term seasonal capital, such loans cannot be repaid out of the proceeds of immediate sales but must be extended over a period of time sufficiently long, perhaps several years, to permit repayment out of earnings. Bankers found several objections to making "capital loans." First, such loans were not readily liquidated by sale, but had to be held to maturity. Until the amendments to the Federal Reserve Act in 1935, such paper could not be used as a basis for loans at the Federal Reserve Banks. Further, remote maturities made such loans somewhat more hazardous than the three-months loan, the repayment of which might be quickly required if the borrower's credit took a turn for the worse. Finally, capital loans were heavily criticized by bank examiners and were frequently classed as "slow."

During the 1930's it became the practice of banks to make loans to business with maturities of over one year. Maturities were sometimes two, three, five, and even as long as ten years, where the needs of the borrowers required. Such loans were often called *term loans* to differentiate them from short-maturing commercial loans. The practice of making term loans continued after the war and by 1946, out of a total amount of business loans of \$13 billion, about \$4.5 billion, or 34 per cent, had original maturities of over one year. As one might expect, manufacturing and mining industries made the greatest use of term loans. Out of the total of \$4.5 billion, these industries accounted for \$2.3 billion. Public utility loans were next in importance, and retail trade stood third. Table

6 shows the use made of such loans by industries and by size of business.

TABLE 6

LONG-TERM BUSINESS LOANS OF MEMBER BANKS, NOVEMBER 20, 1946,
BY SIZE AND BUSINESS OF BORROWER *
(Amount of loans in millions of dollars)

<i>Business of Borrower</i>	<i>All Busi- nesses</i>	<i>Size of Business (Total Assets in Thousands of Dollars)</i>				
		<i>Under 50</i>	<i>50- 250</i>	<i>250- 750</i>	<i>750- 5,000</i>	<i>5,000 and Over</i>
Retail trade	410	142	81	30	28	128
Wholesale trade	223	22	48	26	35	91
Manufacturing and mining	2,361	45	94	94	306	1,821
Public utilities	937	37	33	31	69	767
Services	228	63	52	16	30	69
Construction	57	16	28	8	4	1
Sales finance	70	1	2	4	10	55
All other	190	27	49	26	37	51
All borrowers	4,476	353	386	235	519	2,983

* "Business Loans of Member Banks," *Federal Reserve Bulletin*, March 1947.
(Special study of loans by member banks to business.)

Perhaps the relative importance of these longer-term loans among the total bank loans of particular classes of borrowers is as significant as the absolute size of the loans. Table 7 gives the percentage of such loans to the total bank borrowings of the different types of borrowing firms.

It is interesting to note that, although manufacturing and mining industries borrow more in aggregate amounts on term loans than any other industry, such loans are relatively more important for both public utilities and service industries. Also, in respect to the term loan borrowings of firms of different size groups within industries, one should note that there is a marked tendency for firms of largest size to make more use of term loans than do smaller firms. Exceptions, however, occur in the case of wholesaling, construction, and sales finance, where the smallest group is more dependent on term loans than is the largest. Also, there is a

marked tendency for the firms in the smallest sized groups to depend more on term loans than do the firms in the middle-sized groups. Thus, it appears, term loans are more useful for meeting the needs of the smallest and the largest groups of borrowing firms than for those of middle size.

TABLE 7
PERCENTAGE OF LONG-TERM LOANS TO TOTAL LOANS
FOR EACH INDUSTRY-SIZE GROUP *

<i>Business of Borrower</i>	<i>All Busi- nesses</i>	<i>Size of Business (Total Assets in Thousands of Dollars)</i>				
		<i>Under 50</i>	<i>50- 250</i>	<i>250- 750</i>	<i>750- 5,000</i>	<i>5,000 and Over</i>
Retail trade	28.1	30.1	19.9	20.5	18.2	45.9
Wholesale trade ..	9.3	12.9	9.0	6.5	6.4	12.2
Manufacturing and mining	41.9	24.1	15.8	17.2	26.8	57.6
Public utilities ...	77.9	51.4	41.3	52.5	63.9	86.8
Services	47.7	43.8	37.7	33.3	50.8	77.5
Construction	12.8	18.6	16.6	10.4	4.3	5.3
Sales finance	9.0	11.1	3.8	6.8	8.7	10.2
All other	29.9	31.4	26.9	23.9	24.0	48.6
All borrowers	34.4	28.8	17.9	16.3	21.9	51.2

* "Business Loans of Member Banks," *Federal Reserve Bulletin*, March 1947.

Larger term loans have frequently been made for the purpose of retiring old bond issues bearing higher rates of interest. It has been estimated that about one-half of the term loans for the 1930's were made for this purpose. Some of the larger term loans have involved splitting among a number of banks, an option to extend the maturity date by as much as eight years, and provision for a credit line that permits the borrower to vary the amount of the loan by paying a small fee for the privilege of having the unused part of the credit kept open.

It should be recognized that the making of capital or term loans by commercial banks involves risks that are somewhat greater than those on loans made for shorter periods. To facilitate the repayment out of earnings, it is well for such loans to mature serially. Further, special protection is needed for the lender.

This may take the form of warehouse receipts issued against the inventory of the borrower, mortgages on plant and equipment, and special agreements not to mortgage or pledge any assets during the life of the loan and to maintain a minimum current ratio. The borrower should have a depression record of earnings sufficient to pay the interest and serial maturities.

Secured business loans. As we saw earlier in our discussion, many bank loans are made without security. Especially is this true of loans to business borrowers. Nevertheless, a very substantial fraction of business loans are made on some form of security. The relative importance of secured and unsecured loans made to business by member banks may be seen in Table 8.

TABLE 8

SECURED LOANS AS A PROPORTION OF ALL BUSINESS LOANS OF MEMBER BANKS *
(November 20, 1946)

All business loans	\$18,237,000,000
Secured business loans	5,799,000,000
Percentage of secured loans to total loans	43.8
Total number of business loans	671,000
Number of secured business loans	410,000
Percentage of number of secured loans to total loans	61.1

* "Security Pledged on Member Bank Loans to Business," *Federal Reserve Bulletin*, June 1947.

It is evident that unsecured loans to business exceeded secured loans in dollar volume by a substantial margin, yet over 60 per cent of the total number of business loans are secured. The explanation, of course, lies in the fact that large borrowers generally enjoy sufficient credit to be able to borrow without security. Being large, though relatively fewer, such borrowers account for a larger part of the total business loans. Smaller borrowers with weaker credit standing borrow less in the aggregate but account for the larger number of loans that are classified as secured.

The various types of security offered and the relative importance of each may be seen by examining Table 9.

It will be noted that the most important single type of collateral offered by businessmen was inventories or commodity collateral. This accounted for over 20 per cent of the total secured loans. Second in importance was collateral consisting of stocks, bonds,

and mortgages owned by the borrowers and assigned as security. This class of collateral amounted to 18 per cent of the total. The third most important security was liens on plant or other real

TABLE 9
BUSINESS LOANS OF MEMBER BANKS, NOVEMBER 20, 1946,
BY TYPE OF SECURITY *

<i>Major Type of Security</i>	<i>Amount of Loans (in Millions)</i>	<i>Percentage Ratio to Total Secured Loans</i>
Endorsed and comaker	\$ 706	12.2
Inventories	1,195	20.6
Bonded warehouse receipts	420	7.2
Field warehouse receipts	62	1.1
Other warehouse receipts	458	7.9
Other inventories	255	4.4
Equipment	706	12.2
Assignment of title on	102	1.8
Chattel mortgage on	604	10.4
Plant and other real estate	948	16.3
Stocks, bonds, and mortgages	1,075	18.5
U.S. Government securities	368	6.3
Other bonds	90	1.6
Listed stocks	297	5.1
Unlisted stocks	190	3.3
Assignment of mortgages on prop- erty not owned by borrower ...	130	2.2
Accounts receivable	190	3.3
Life insurance	148	2.6
Oil runs	191	3.3
Assignment of claims	314	5.4
Against the Government	21	0.2
Against others	274	4.7
Savings accounts	19	0.3
Government participation or guarantee	119	2.1
Other security	212	3.7

* "Security Pledged on Member Bank Loans to Business," *Federal Reserve Bulletin*, June 1947.

estate. Fourth in importance was liens on equipment or assignment of title to equipment amounting to 12 per cent of all secured loans. Of equal importance was security based upon endorsement or comakers (sometimes known as accommodation paper).

LOANS ON COMMODITY COLLATERAL

Basic commodities used as collateral. Although commodity collateral generally consists of warehouse receipts, bills of lading, or trust receipts, the underlying commodities are of great variety. Originally they included only such staples as grain, cotton, wool, and meat produce, which were easily graded and stored. With the modern improvements in the art of cold storage, a vast array of commodities can be stored, and the warehouse receipts against them may appear as collateral for bank loans. We now have grain in elevators, whiskey, tobacco, silks, tea, cotton, butter, eggs, fruits of all kinds, raisins, nuts, vegetables, fish, wool, carpets, and rugs, to mention a few of the types used.² To make the use of warehouse receipts more available to manufacturers and other businessmen who are unable to put their staple raw materials in storage in some bonded warehouse located elsewhere than the borrower's place of business, public warehousemen are now employing field or branch warehouses at the plant of the manufacturer. Complete custody of commodities used for collateral for loans is given to these branch warehouses.³

Problems of commodity collateral. Like loans secured by stocks and bonds, commodity collateral loans present the problems of marketability and value. If the underlying commodities are regularly traded in on organized exchanges, there is the advantage of assured marketability as well as opportunity to keep close check upon changes in market value. But many commodities on which warehouse receipts are issued and offered as collateral for banks are not dealt in on regular exchanges. Their marketability depends, often, upon a relatively narrow range of buyers. Under such circumstances, the lending banker must rely not only upon a wide margin of collateral but also upon the borrower's general credit standing and the probability that the collateral will in due

² Phillips, Chester A., *Bank Credit*, New York, The Macmillan Co., 1920, p. 227.

³ Gibson, A. T., "Warehouse Receipts," *American Bankers Association Journal*, October 1932, Vol. 25, p. 27. See also "Field Warehouse Receipts," *Federal Reserve Bulletin*, June 1937, pp. 513-521.

time be turned into income. Although not so satisfactory as a loan on more staple articles, loans on the less marketable forms of commodity collateral have an obvious advantage over unsecured loans in that they give the lender a prior claim on certain specific valuable assets in case of bankruptcy. Collateral notes of all kinds ordinarily contain a power of sale in case of default or bankruptcy. Loans on warehouse receipts are preferable to loans on chattel mortgages because of the greater convenience and lack of legal procedure involved in realizing on the collateral.

Bills of lading. The three basic types of documents that bankers receive as security for loans are (1) bills of lading; (2) warehouse receipts; and (3) trust receipts. Bills of lading are of two sorts. The so-called *straight* bill of lading calls for the delivery of goods by the carrier to a designated consignee. When goods are shipped under a straight bill of lading, the carrier discharges its obligation by delivery to the consignee, and may properly do so regardless of whether or not the consignee has the bill of lading. This type of bill of lading, therefore, is valueless as security for loans, since its possession by the bank does not carry with it the right to take possession of the goods from the carrier. The order or negotiable bill of lading, however, is a document of title upon which a bank may safely lend, for such a bill, properly indorsed, gives the holder the right to take possession of the goods.

The value of a bill of lading as collateral for loans is, of course, dependent upon the value of the commodity in shipment. There is the risk that the "shipper's count," relied on by the carrier, may be inflated or that the goods may be of inferior quality. Finally, there is the possibility that the shipper's title to the goods may be defective or that the individual pledging the bill of lading may not have title to it. The latter problem is simplified somewhat by the provisions of the Federal law which provides that order bills of lading arising in interstate commerce may be negotiated by any person having possession, however acquired, if the goods are deliverable to the order of that person or if the bill of lading has been indorsed in blank.

Warehouse receipts. A negotiable warehouse receipt issued by a responsible, bonded warehouseman may provide high-class security for bank loans. The safety of such loans cannot be left to chance but requires that the lender assure himself on the following points;

1. Suitability of the warehouse or storage facilities.
2. Responsibility and competency of the warehouseman.
3. Information contained in the receipt that provides an honest, impartial, and comprehensive description of the commodity.
4. Terms of the warehouse receipt such as to safeguard the lender.
5. Bonded responsibility behind the receipt, with the bond in such form that it can be realized on by the holder of the receipt.
6. Bona fide relationship of bailor and bailce existing between the storer and the warehouseman under which the latter and his representatives or his local custodians are completely and wholly independent of the storer. This last point is especially important in the case of field warehousing.

To improve the quality and security of warehouse receipts and to clarify and standardize their use, the Uniform Warehouse Receipts Act has been adopted by 46 states,⁴ and the United States Warehouse Receipts Act has been enacted by the Federal Government. To insure honest grading and financial responsibility on the part of warehousemen of agricultural products, the Secretary of Agriculture may license warehousemen of agricultural products and require that they be satisfactorily bonded to the United States Government. Any person injured by the default of the warehouseman may sue in his own name on the bond. To improve the protection afforded to holders of warehouse receipts, the Uniform Warehouse Receipts Act provides that the validity of the negotiation of a warehouse receipt shall not be impaired by the fact that (1) it was a breach of duty on the part of the person making the negotiation; or (2) the owner of the receipt was induced by fraud, mistake, or duress to entrust its possession to the person negotiating it, provided the buyer acted in good faith. Furthermore, although holders of warehouse receipts are subject to all previously recorded liens and have no recourse in such a case against the warehouseman who issues the receipt in good faith, the Warehouse Receipts Act provides that the depositor of the goods subject to a lien, negotiating the warehouse receipt for value with intent to deceive and without disclosing the lien, is punishable by fine and imprisonment.

A relatively important development occurred during the 1930's in the form of field warehousing.⁵ Field warehousing dif-

⁴ *An Introduction to Field Warehousing*, 1941, Bank Management Commission, American Bankers Association.

⁵ Cf. *An Introduction to Field Warehousing*, 1941, American Bankers Association.

fers from ordinary warehousing in that it involves the use of the warehouses belonging to the borrower instead of those belonging to an independent warehouseman. In order that warehouse receipts issued against goods stored in the borrower's own warehouse may be of use as collateral for a loan by the bank, it is necessary that the warehouse be completely removed from the custody of the borrower and be transferred to the custody of an independent warehouseman. To accomplish this, the warehouse in which the goods are stored is leased by the independent warehouseman, who takes over sole possession and places conspicuous notices on the warehouse to notify the public that goods contained therein are subject to warehouse receipts which are probably pledged. To be acceptable collateral, the receipts must be issued by a clearly independent individual or firm regularly engaged in warehousing. It is the general practice for field warehousing companies to hire one or more persons employed by the storer to act as custodians. The best arrangement is one in which the custodian is wholly employed by the warehouseman, although instances occur where the warehouseman pays only part of the custodian's wages.

Field warehousing offers decided advantages to both borrowers and lenders. In many lines, borrowers' only commodity collateral comprises inventory which cannot conveniently be placed in a public warehouse. The field warehouse plan, properly executed, enables such borrowers to offer banks collateral which otherwise would be unavailable. Not only is the borrower's credit position somewhat enhanced, but also the bankers obtain the benefit of a better loan outlet. The growth of field warehousing has done much to expand the use of commodity collateral for bank loans. Such widely different commodities as apples, automobiles, beer (in vats), brass, paper boxes, peanuts, railroad ties, rubber tires, tin plate, and washing machines, to name but a few, have been used as the basis for loans on field warehouse receipts. Raw materials and finished products only are favored for field warehousing. Difficulties in maintaining proper control over goods in process make their use unsatisfactory.

Trust receipt. Finally, there is the trust receipt, a document frequently used to protect the bank when it becomes necessary to release the goods called for by the warehouse receipt or bill of lading in order that the borrower may utilize or dispose of them. At such a time, the borrower signs a "trust receipt," which

acknowledges the receipt of the goods and states the use to be made of them. The borrower agrees to hold the goods in trust for the bank and on their disposal to deliver the proceeds to the bank. As far as the borrower is concerned, the trust receipt is an effective instrument for the protection of the banker. The courts have no difficulty in finding that, as between the two, the banker is entitled to possession of either the goods or the proceeds. Any action of the debtor in violation of his agreement in the trust receipt would make him liable to the banker as well as answerable to the state for misapplication of funds. However, in case the debtor has disposed of the goods and at the same time is insolvent, the banker cannot retake the goods from an innocent buyer.

OTHER COLLATERAL FOR BUSINESS LOANS

Stocks, bonds, and assigned mortgages. Almost as important as commodity collateral is that comprising securities. The advantages of such collateral are several. If the securities are highly marketable, the bank has something that can be readily sold to satisfy the debt in case of default. Even when not readily marketable on organized exchanges, securities pledged on the loan give the banker definite protection by giving him prior claim against valuable assets. The borrower benefits by being able to borrow more than he otherwise might be allowed to. Not only does the security improve his credit position, but also the size of the loan may be increased if the bank has a small capital and surplus. National banks, for instance, can lend not more than 10 per cent of their capital and surplus to any one borrower unless certain collateral requirements are met. If the borrower offers collateral of U.S. Government obligations, for example, the individual loan limit becomes 25 per cent.

It should be remembered that the margin requirements placed on loans made for the carrying securities do not apply to business loans secured by stocks and bonds. The reason is of course easy to see, since the banks need require no collateral at all. Margin requirements are designed to hold in check speculation in stocks on borrowed money.

Assignment of title and chattel mortgages on equipment. Many small companies are able to give necessary security for loans to purchase equipment by assigning the title or by giving a chattel mortgage to the lending bank. Similarly, they may offer mort-

gage liens on plant and other real estate. Such security is often used to protect the bank making term loans.

Accounts receivable. Before the depression of the 1930's, banks did not often venture into the field of lending on borrowers' accounts receivable. The depression years so impaired the credit standing of some small and medium-sized firms that they were compelled, in the absence of better collateral, to offer to assign their accounts as a basis for loans. In general, banks have not favored lending on the assignment of accounts receivable because of the added expense and trouble involved. Nevertheless, seeking for profitable loan outlets, the banks have gradually moved into this field that previously was the special province of the finance companies and discount houses.

In financing on receivables, banks advance cash to the borrowers in amounts up to 70 to 90 per cent of the face amount of the assigned accounts. Generally the debtors whose accounts are assigned are not notified and consequently the banks must rely on the agreement of the borrowing firm to turn over the daily check receipts received in payment of the accounts. The banks reserve their right of recourse against the borrower for ultimate payment. Interest rates charged on such loans are usually higher than on loans secured by other forms of collateral.⁶

THE UNSECURED BUSINESS LOAN

A great number of business firms do not include in their inventory many, if any, commodities that can be put into independent warehouses and used as collateral. As a result, they are unable to offer commodity collateral as security for bank loans, yet normally such firms are not supplied with stocks and bonds for use as collateral. A large part of commercial loans, therefore, must be made without the pledge of any specific collateral.

Trade paper. One type of unsecured loan takes the form of discounted or purchased trade paper owned by the borrower. Such paper consists of trade acceptances and promissory notes. By his indorsement the borrower assumes a contingent liability to pay the instrument on notice of dishonor by the primary obligor. Trade paper thus bears two signatures and is designated *two-name* paper. The discounting bank, therefore, gets the specific promise

⁶ Cf. Saulnier, R. J. and Jacoby, N. H., *Accounts Receivable Financing*, National Bureau of Economic Research, 1943.

of the buyer of goods, in addition to the indorsement of the seller-borrower. The selling and credit policies of American business are such that two-name paper of this kind is relatively scarce. Although at one time a common practice, the sale of goods on credit by the use of notes receivable is now confined to the selling of such things as lumber, jewelry, pianos, plumbers' supplies, and agricultural implements.⁷ Likewise, the trade acceptance is used but little, most firms preferring for one reason or another to stick to the usual method of selling on open account. This has been true in spite of the efforts of the Federal Reserve Board to promote its use by granting it a preferential rediscount rate during the early years of the Federal Reserve System.

The trade acceptance. The use of the trade acceptance has been the subject of considerable debate. Its champions hold that its use would be of advantage to the buyers and sellers of merchandise as well as to the bank called upon to finance the transactions. A good account of the use of the trade acceptance is given by the Federal Reserve Bank of Richmond in its letter on "Trade Acceptances," a quotation from which is given below.⁸

Before passing to the consideration of the advantages and disadvantages of the use of the trade acceptance which were urged in the campaign to which we have already referred, the student should have clearly in mind a picture of previous (and to a large extent present) practices in this country as contrasted with the proposed practice.

When a manufacturer or wholesale dealer sells to a jobber or retail dealer, the goods are usually shipped on open bills of lading, and the account of the buyer is charged on the books of the seller at the agreed prices, less the trade discount, if such a discount is allowed. At or about the time of the sale (or possibly the shipment) the seller sends to the buyer an itemized invoice of the goods, and upon this invoice is written or printed the terms of the sale. That is to say, the invoice shows the length of time in which the buyer has to pay and the cash discount which will be allowed by the seller if payment is made within a shorter time (frequently ten days). The claim remains an open account on the books of the seller until it falls due and is paid by the buyer, whose duty it is to remit at the maturity of the account, unless, of course, the buyer anticipates this maturity by remitting (less the cash discount) on or before the discount date named in the invoice.

⁷ Phillips, *op. cit.*, p. 169.

⁸ Quoted with the permission of the Federal Reserve Bank of Richmond, from "Trade Acceptances," *Letter No. 11*, 1923.

If in the meantime the seller finds it necessary to borrow money with which to meet his obligations, he goes to his bank, presents a note for the amount he wishes to obtain, and borrows from the bank on the strength of his statement of assets and liabilities, including among his assets his customers' unpaid accounts (accounts receivable), which accounts are made up of sales some of which have matured and some of which have not.

In case the trade acceptance plan is made use of, the sale and shipment will be made in exactly the same way. The invoice will be sent as usual to the purchaser, but with it would go a draft drawn on the purchaser by the seller dated on the day of sale (or the day of shipment) and payable one, two, three, or four months after date, according to the terms of the sale. The invoice could indicate the discount terms just as in the former case, but the purchaser would be requested to accept the draft by writing his name across the face of it and to return it to the seller, unless he should decide to take advantage of the cash discount terms and remit for the net amount of the bill within the time (frequently ten days) specified. In such a case he would of course destroy the draft or return it without acceptance to the seller. It is manifest that in this case the seller instead of having an open account against the purchaser would hold an accepted draft. It is also manifest that in going to his bank for a loan, he could give it one or more of these accepted drafts, instead of executing his own note for the amount he wished to borrow. It is also manifest that in discounting these acceptances (instead of the note of the seller), the bank would have the security of two names instead of one.

It has been argued that bankers would find discounting trade acceptances more desirable than lending on single-name notes of borrowers. The reasons given include: (1) the second name (the acceptor's) gives added security; (2) there is freedom from the danger that the borrower may assign or hypothecate his accounts receivable to some other lender; (3) the banker can judge the credit risks of the customer since discounting acceptances enables him to identify the customer's buyers.

On the other hand, bankers have been unimpressed by the alleged advantages of the trade acceptance. Perhaps their opinion is influenced by the aversion that many buyers feel toward it. Having become accustomed to buying on open account they have resented and resisted attempts to introduce the use of the trade acceptance on the grounds that such attempts are a reflection on their credit position. Bankers, themselves, are not especially impressed by the advantages claimed, and often seem to prefer to

make a single loan to a borrower than to discount a miscellaneous assortment of acceptances.

Single-name paper. Finally, there is the single-name unsecured note, which looms large among bank loans. The use of single-name paper arises from the American habit of making credit sales on open account with a heavy discount offered for cash. The heavy cash discount obtainable for payment within ten days furnishes an inducement to the buyer to pay cash, if it is at all possible. If he possesses insufficient funds of his own, and his credit standing is sufficiently good, he will borrow on his unsecured note from his local banker. On the other hand, if the buyer is unable to pay cash but waits until the expiration of the full credit period to pay, the seller will obtain funds by borrowing at his bank on his unsecured notes. Thus, in either event, banks will be called upon to finance the transaction on single-name unsecured notes.

In order that a banker may make unsecured loans safely, it is essential that he have complete and accurate information as to the borrower's credit. The methods used in acquiring such information are varied. The small-town banker tends to rely upon his general acquaintance with the borrower's affairs, supplemented by specific personal inquiries. Larger banks find it impossible to rely upon haphazard credit information and develop more or less elaborate credit departments whose function it is to gather and record credit information about customers and prospective borrowers.⁹ The multiplicity of their borrowers, the greater difficulty of measuring the credit standing of complex and large-scale firms, the size of the accommodation required—all make necessary a more complete and orderly assemblage of information than could be had with less formal methods of collection. Moreover, large city banks are frequently called upon by their country correspondents to supply credit information about open-market borrowers.¹⁰

Borrowers' statements. Credit information of the more formal sort may be obtained from a variety of sources. There are available for banks as well as others the services of the well-known credit-rating agencies, such as Dun and Bradstreet. There is also

⁹ Phillips states that the establishment of credit departments in banks began about 1890. It was after 1900 that their use became common. *Bank Credit*, New York, The Macmillan Co., 1920, pp. 144-147. See also Prendergast, Wm. A., and Steiner, Wm. H., *Credit and Its Uses*, New York, D. Appleton-Century Co., 1931, p. 93.

¹⁰ Phillips, *op. cit.*, p. 148.

the method of direct inquiry from the business houses that have dealings with the individual or firm whose credit standing is being examined. If the borrower has borrowed before at the bank, his record there is available. Finally, there is the direct inquiry from applicants for loans. Foremost in such an inquiry is a request for a statement of assets and liabilities (or balance sheet) and an income statement, preferably certified by a certified public accountant. Supplementing these will be specific inquiries bearing on the borrower's business affairs.

The use of the borrower's statement of assets and liabilities received impetus through the rise of credit departments.¹¹ Since unsecured commercial loans are made for a relatively short period of time, the banker is vitally concerned with the relation of the borrower's current income to his liabilities. Only when his probable income shows a satisfactory margin over his liabilities, including the proposed loan, will the banker be justified in lending without security. A careful analysis of the borrower's statements will give the desired information. The items of the balance sheet of most interest to the banker are the current assets and the current liabilities.

<i>Current Assets</i>	<i>Current Liabilities</i>
Cash	Accounts payable
Accounts and notes receivable	Notes payable
Inventory, made up of:	Accrued interest on long-time debt
Raw materials	Any long-time debt nearing
Finished goods	maturity
Goods in process	Accrued expenses

The ratio of current assets to current liabilities, called, for convenience, the "current ratio," should show a satisfactory margin of assets over liabilities. What the margin should be in practice depends primarily upon the quality of the current assets and the degree of regularity of income and outgo. The quality of the current assets depends, among other things, upon the following conditions:

1. The general state of business, whether normal or dangerously inflated. This has a direct bearing upon both the marketability of the inventory and the ability to collect the accounts receivable.

¹¹ *Ibid.*, pp. 145-146.

2. The freshness of the accounts receivable. If any substantial proportion represent past-due, slow, and uncertain accounts, their value must be discounted. This may be discovered by comparing the volume of accounts receivable with the volume of sales during the normal credit period just preceding. Since some buyers take cash discounts, the accounts receivable should be less rather than more than the sales for the period.

3. The marketability of the inventory. This is indicated by comparing the present rate of inventory turnover with (1) the past experience of the company; and (2) the experience of other firms of a similar type. Furthermore, the marketability is affected by the degree to which the product is a staple, subject to a continuous demand. Not only will the banker rely upon an analysis of the borrower's statements as a means of discovering the true worth of the assets, but he must also check carefully, insofar as possible, on the accuracy of the statements themselves. This may involve an audit of the borrower's accounts either by certified public accountants or by representatives of the bank.

Although the banker relies heavily upon the current ratio of the borrower in order to assure repayment of the loan when due, he cannot afford to disregard the question of the long-time solvency of the firm as evidenced by an adequate stockholders' equity. This consideration may not appear so important in the case of short-time loans intended to tide the borrower over a seasonal peak. In such cases sufficient protection is afforded by the current assets. But the tendency among some borrowers continuously to obtain part of their working capital from banks alters the situation. In such instances the borrower relies upon his renewing the loan at maturity, or at best, cleaning up his loan at one bank by borrowing at another or in the open market. It is obvious that in such a case the question of the ultimate solvency of the borrower becomes a vital one, for upon it rests his ability either to pay the loan or to shift it to other banks.

The line of credit. In the event that the customer wishes to borrow at intervals during any given season, it is frequently more convenient both for him and for the bank to make an analysis of his credit and to establish a maximum line of credit which the bank is willing to extend. Thereafter, so long as there is no material alteration in the borrower's condition, he may borrow at

any time, without investigation, up to the amount of his credit line. The line of credit imposes no legal obligation upon the bank. It is merely an expression of willingness to lend up to a certain amount if the borrower's credit standing is not impaired and if the bank is in a position to lend at the time when the customer wishes to borrow. Not only does the bank not assume any legal liability to lend, but the customer in no way obligates himself to borrow any or all of the line extended to him. But the bank incurs a moral obligation to keep open the line if the customer carefully preserves his credit standing, and it could hardly afford to violate the confidence of a valuable customer. If necessary, it may rediscount or borrow funds required to care for the customer's needs. Lines of credit are extended not only to business houses but to correspondent banks as well. Nonmember banks that experience heavy seasonal drains of cash frequently resort to their city correspondent for loans. These loans may be either secured or unsecured.

Banks usually make two requirements of customers for whom they extend a credit line. First, the customer may be expected to clean up his loans at least once a year. This is designed to indicate that the borrower is obtaining funds to care for a seasonal peak in his business. After the need is past, he will pay off his loans. The bank's loans are, therefore, self-liquidating in character. The continuous borrowers, however, can conform to this rule only by borrowing elsewhere in order to pay off the original lending bank. Although loans of this kind are not strictly self-liquidating merely because they are paid off, the bank has the advantage of compelling the borrower to subject his affairs periodically to the scrutiny of other bankers.

A second requirement commonly made by commercial banks in extending a line of credit is that the customer shall maintain a certain fractional part of the line on deposit with the bank during the life of the credit. This rule is by no means uniformly applied. It is more commonly insisted on in the larger money centers, but is a well-established principle among practical bankers, whether or not actually adhered to.¹² A variation of the same principle appears in the form of a requirement that a borrowing

¹² Phillips says that many city banks require borrowers to maintain average balances equal to 20 per cent of the maximum credit extended, while country banks make no such requirement. *Op. cit.*, p. 42.

customer shall maintain a certain fraction of his total loans on deposit during the life of the loan. Still another variation is that any loans made may be only a certain multiple of the average deposit balances carried by the borrower during some preceding period. Some form of the average balance requirement is in common use, particularly among metropolitan bankers. Nearly 85 per cent of 206 commercial banks located in various clearing house cities reported the practice. They required from 10 to 20 per cent of an unsecured loan and somewhat less for the secured.¹³

Bankers give several reasons for the "compensating balance" rule. The most frequent reason assigned is that, since a bank cannot lend without deposits, those desiring loans should be required to be depositors also. To this general reason may be added the more specific ones that an adequate balance should be carried by the borrower: (1) to insure the liquidity of his own position and the safety of his business; (2) to reduce the risk to the bank of extending credit; and (3) to make the customer's account profitable to the bank. Some bankers hold that the maintenance of an adequate balance gives the insurance of a supply of credit in times of need. Indeed, it appears that country banks expecting accommodation from their city correspondents carefully maintain their balances with this in mind.

Perhaps the best justification for the practice is that it seems to be profitable to the banks. No doubt it influences to some extent the size of deposit balances carried by customers who expect to borrow from the bank. When applied in the form of limiting loans to some multiple of balances carried in the past, it puts pressure upon borrowers to maintain their deposits constantly at a larger figure than otherwise. This pressure gives the banker more loanable funds, other things being equal, than he would otherwise have. On the other hand, if the rule applied requires a borrower to keep an average deposit equal to 15 or 20 per cent of the loan during its life, it tends to require him to borrow more than he really needs. In either application of the rule, the customer *may* be required to carry an abnormally large balance before or during the life of the loan. If so, it has the effect

¹³ Whipple, Howard, "The Average Balance Theory: Is it Justified?" *American Bankers Association Journal*, May, 1931, p. 902. Also, for a statement that most banks apply the 15 per cent or 20 per cent compensating balance rule, see Hand, John A., "Compensating Balances Should Be Required," *Bankers Magazine*, January, 1932, p. 43.

of increasing the cost of the loan. The compensating balance, therefore, results in an overcharge on the part of the bank for the purpose of increasing the bank's income.¹⁴

The rule has been severely criticized on the grounds that it is illogical, since it is blindly adhered to as a matter of habit, and unfair, since it is not consistently enforced against the stronger borrowers but falls most heavily on the small and weak who, because of their inferior position, are dependent upon a single bank.¹⁵ Naturally loans or investments made by a banker in the open market cannot give rise to any required balances. This is justified, however, on the grounds that such purchases and loans are made out of surplus funds at times when the bank is not in need of deposits.¹⁶

CONCLUSION

As might be expected, commercial and industrial loans constitute the largest single category of loans of commercial banks. Such loans show a remarkable variety as to maturities, type of security, and purpose. They include short-term, unsecured loans to finance seasonal needs, and longer-term loans for the purchase of equipment and to provide other medium-term working capital.

There remain for consideration the other types of loans that find their way into the portfolios of banks. These loans, and the legal regulations governing the lending activity of banks, constitute the subject matter for the next chapter.

Questions for Study

1. What constitutes a bank's earning assets?
2. What changes in the make-up of bank earning assets during the war years are shown by Chart 4?
3. Examine Chart 5. Rate the different types of loans according to their relative quantitative importance.
4. Distinguish between open market and customers' loans. Which bear the lower rate of interest? Why?

¹⁴ *Ibid.*, p. 938. Bradford believes that in practice borrowers carry deposits little, if any, larger than would normally be carried in the absence of the rule. See Bradford, Frederick A., *Banking*, 1932, first edition, pp. 254-256. Insofar as the practice increases the cost of loans, it enables banks to evade usury laws.

¹⁵ Whipple, *op. cit.*

¹⁶ Hand, *op. cit.*

5. Can you explain the traditional preference of commercial banks for short-term self-liquidating loans?
6. Why did the practice of making 90 day renewable loans to provide longer-term working capital prove so unsatisfactory in the 1930's?
7. What are *term* loans? How is their mode of repayment different from that of self-liquidating loans?
8. What types and sizes of industry and trade are most dependent upon term loans?
9. What special problems of security arise in connection with term loans and how are they met?
10. What are secured loans? About what fraction of money lent to business in 1946 was on secured loans?
11. Examine Table 9 and rate the main types of security in order of quantitative importance.
12. What are three main types of commodity collateral?
13. What are the most important things to consider in lending on warehouse receipts?
14. What are a) field warehouses, b) bonded warehouses, c) straight and order bills of lading?
15. Why are stocks and bonds used as collateral for business loans? How and why are accounts receivable assigned as collateral for bank loans?
16. Distinguish between selling on open account and with the use of trade paper.
17. How do banks judge the credit worthiness of a borrower without security?
18. What is a line of credit? What requirements do banks often make when extending a line to a borrower?

Loans Other Than Commercial and Industrial

ALTHOUGH COMMERCIAL AND INDUSTRIAL LOANS CONSTITUTE THE largest single class of bank loans, they amount to not quite one-half of the total loans of commercial banks. Loans other than those to business include loans to agriculture, loans for purchasing and carrying securities, loans on real estate, consumer loans, and loans not otherwise classified. Each of these is important in bank portfolios and deserves some attention.

OTHER TYPES OF BANK LOANS

Loans for financing trading in and carrying securities. Borrowers who use funds to finance trading in securities are of two types. There is first the investment banking house, which borrows from commercial banks on the collateral of securities owned by the borrower and in the process of being distributed into investors' hands. The amount of lending for such purposes varies with the location of the bank, the nature of its clientele, and the state of the investment market. The large city banker is called on for such loans if current security flotations exceed the capacity of the investment bankers' own capital. The banks located outside of the financial centers have little, if any, loans of this kind.

Second, there is the numerically much more important class of borrowers composed of brokers and speculators. The magnitude of brokers' loans during times of acute stock market speculation is shown by the fact that they were in excess of \$9,000,000,000 in October 1929.¹ After the collapse of the stock market boom in

¹ "Operation of the National and Federal Reserve Banking Systems," *Hearings before a Subcommittee of the Committee on Banking and Currency, United States Senate, 72nd Cong., 1st sess., S. Res. 71, p. 1021.*

1929, loans of this type declined greatly. They did not revive again to comparable heights during the inflation following World War II because of the high margin requirements for such loans when based on registered stocks.

During the war and immediately after, security loans to finance the carrying of United States securities during bond selling drives rose to high levels for short periods. In December 1945, loans on United States obligations to brokers and dealers reached nearly \$2,000,000,000 in addition to loans to others to finance carrying such securities amounting to \$2,500,000,000.

Properly margined loans to finance trading in securities reduce the problem of analyzing the borrower's credit standing. Nevertheless they present certain other problems. The collateral offered must be marketable and of a value sufficiently above the amount of the loan to assure the bank that it will not lose in a falling market. The collateral must be regularly and carefully scrutinized and any decline in the margin of market value of the securities over the face of the loan must be promptly made up. This task is assumed by the New York City banks when they make loans on the stock exchange for their country correspondents.

It is customary for banks making security loans to draw up agreements with the borrowers designed to protect the lender from the consequences of a decline in the value of the collateral. Included in such agreements is the promise of the borrower to maintain a satisfactory margin of security. Failure to do so makes the loan due and payable at the bank's option. Should the borrower default either in maintaining adequate collateral or in repayment, the bank is authorized to dispose of the collateral and apply the proceeds to the debt.

Under the authority of the Securities Exchange Act of 1934, the Board of Governors of the Federal Reserve System fixes the loan value for stocks that are registered on the national security exchanges and offered as collateral for loans to finance the purchase or carrying of such stocks. Because this authority was given the Board to aid it in preventing excessive use of credit in security speculation, loan values have been set with an eye to preventing speculation in stocks from getting out of hand rather than to insure the safety of the loans.

Consumer loans of commercial banks. For many years finance companies and small loan companies have successfully operated in

the field of consumer loans. Commercial banks, however, are late comers in the field. Before 1931, they made little effort to enter the field of consumer financing because of the risk, the stigma commonly attached to that type of loan, and the extra trouble involved. Instead, they preferred to confine their lending to the larger commercial borrowers from whom there generally was an ample demand for loans. Only indirectly did the bankers assist in consumer financing through their loans to the finance companies.

The depression of the 1930's, with its sharp decline in the demand for commercial loans, caused bankers to seek other outlets for their funds. Consequently, they began to establish Personal Loan Departments and entered the field of consumer financing. Two main types of consumer financing present themselves: retail installment paper and personal loans of cash. In the past, the bulk of the retail installment paper was handled by the finance companies. These companies, operating on funds borrowed from the commercial banks, had unusual success in financing on an installment basis the purchase of automobiles, trucks, tractors, household appliances, furniture, clothing, and other consumers' goods. The banker, looking at such profitable business financed largely with bank funds, gradually began to reach out into this area on his own account. His ventures into this field take the form both of purchasing installment paper from retailers and finance companies and making direct installment loans and single-payment loans to consumers. In addition, modernization loans made under Title I of the FHA are considered consumer loans. In 1946 about 11,400 banks reported that they held some consumer installment paper. However, about 75 per cent of the total amount of such paper was held by 900 banks, and over one-half of the total was in the hands of 195 banks. Consumer installment financing appears, therefore, to be heavily concentrated in the hands of a rather small number of large banks located in urban centers and equipped with special departments to handle the business.²

The success with which the commercial banks have entered the field of consumer financing is shown by the fact that such loans amounted to over \$7.2 billion, or about 14 per cent of all commercial bank loans at the end of 1949. They have been especially successful in their invasion of the field of automobile retail

² Cf. Baird, Frieda, "Commercial Bank Activity in Consumer Instalment Finance," *Federal Reserve Bulletin*, March 1947.

credit. At the end of 1949, when the total outstanding amount of automobile installment credit was \$3.1 billion, the commercial banks held such paper to the amount of \$1.7 billion. The relative importance of the several classes of consumer loans may be seen in Table 10.

TABLE 10
CONSUMER LOANS OF COMMERCIAL BANKS
November 30, 1949 *

Retail automobile installment paper	\$1,759,000,000
Other retail installment paper	871,000,000
Repairs and modernization loans	774,000,000
Personal installment cash loans	930,000,000
Single-payment consumer loans	2,900,000,000 **

* From reports appearing in the *Federal Reserve Bulletin*, January, 1950.

** The estimate for single payment consumer loans is inflated by the inclusion of pawnbrokers loans. Also a substantial fraction, perhaps as much as one-half, of these loans to individuals are for business purposes rather than for consumption purposes.

On the whole, bankers report a very favorable experience on their consumer loans. Losses have proved negligible and *net* returns on such loans, after allowance for departmental expenses, have averaged better than 4 per cent. For the country as a whole, average rates of interest charged appear to vary between 5 and 6 per cent.³ But, since interest is normally deducted in advance, or taken on a discount basis, the simple interest cost is actually much higher. In the case of direct personal loans this rate is often higher than the legal maximum allowed by state laws. To avoid the question of usury, banks have sometimes required borrowers to deposit installments in savings accounts rather than having the installments applied directly to the reduction of the loan. In some states the law governing usury has been modified to allow banks to charge as much as 12 per cent simple interest on consumer loans. In other states the legality of discounting installment loans at 6 per cent is at best doubtful.

Agricultural loans of banks. Farmers need short-term credit to meet seasonal and irregular needs quite as much as do business firms. Normally they depend on trade credit and bank loans, although an additional and important source of funds exists in the

³ Cf. *Survey of Personal Loan Department Experience and Practice*, Bulletin 74, Research Council of the American Bankers Association, 1938.

government sponsored and subsidized Production Credit System and in other government loans to agriculture. In actual practice, farmers depend heavily on banks to provide funds for their short-term capital requirements. The more progressive country bankers actively campaign to attract and hold high-grade agricultural loans and frequently employ specialists trained in agriculture to assist in setting up budgeted loans tailored to fit the farmers' individual needs.

Short-term bank credit to agriculture is extended either on an unsecured basis or on security consisting mainly of chattel mortgages on crops, livestock, or other inventory. The relative importance of bank credit to agriculture is evidenced by the fact that in 1948, when the total outstanding short-term agricultural credit was \$2.9 billion, the amount of such credit extended by banks was \$1.9 billion.

Real estate loans by banks. The mere fact that a borrower has given a real estate mortgage to secure a loan does not necessarily create a real estate loan. For example, a loan made to a business firm on a medium-term basis to provide working capital may be secured with a mortgage on the firm's real estate. The loan, however, is for business purposes and is not classed as a real estate loan. Real estate loans include loans made to finance the purchase of land, preferably improved, and to finance the construction of buildings or the making of other improvements upon the land. Real estate loans should be made on such a basis that the value of the real estate will sufficiently exceed the amount of the loan as to insure the repayment through liquidation and sale, should the borrower's income prove inadequate to enable him to make payment.

Real estate loans are reported by insured commercial banks under three categories. At the end of June 1949 the three classes of loans and the amount of each were as follows:

Loans on farm land	\$ 878,000,000
Loans on residential property	8,059,000,000
Other loans on real estate	1,954,000,000

It is evident that the bulk of bank loans on real estate are made on urban rather than on farm property. In only a few of the agricultural states are loans on farm land in excess of those on city property.

The popularity of city real estate as a basis for loans can be explained in no small measure by the concentration of a large volume of savings deposits in the larger towns and cities. The attractiveness of real estate loans, arising out of their favorable yields, is enhanced sometimes by the fees charged for investigating the security and making the loan.

Are real estate loans appropriate for commercial banks? Banks have often been criticized for making loans on real estate. Such criticism arises partially from the fact that traditional banking theory, if not practice, holds that commercial banks with demand liabilities should make only short-time self-liquidating loans for commercial purposes. More significant than this theory to practical bankers, however, is the unfortunate experience that bankers have sometimes had with such loans. During the years preceding the bank holiday of 1933, the collapse of many city banks disclosed that they were often heavily loaded with loans on real estate, which were not only unliquid but to a considerable degree without value. Added to this is the experience of rural banks whose holdings of farm mortgages proved troublesome during the years of the depression. It is small wonder that real estate loans have been so roundly criticized.

What, then, are the characteristics of real estate loans? Are they necessarily undesirable and unsafe for banks to make? First, it must be recognized that real estate loans are essentially unliquid. In spite of the activity of the Federal National Mortgage Association, the possibility of disposing of mortgages is uncertain and the banker must consider such loans a fixed part of his portfolio. He must seek for liquidity elsewhere.

Second, real estate loans in the past frequently had no provision for regular amortization of the principal within the life of the loan. In consequence, the principal of a five-year loan, the maximum legal length for a national bank real estate loan before 1935, was very likely to be largely unpaid at maturity, and the borrower was dependent on a renewal. This was easy to arrange in times of confidence and easy money, but when bankers became pessimistic and money was tight, renewals proved difficult. The borrower was thus given inadequate protection. The best interests of both the banker and the borrower are served by a loan policy that provides for real estate loans arranged as to length and amortization of principal so that they are extinguished when due. This

practice should be coupled with a policy of making such loans in the light of the basic inactive part of the bank's deposits. A properly operating amortization plan, in addition to being of great benefit to the borrower, introduces a small but certain element of liquidity to the real estate loan portfolio. In recognition of the advantages of amortization, national banks, since 1935, have been allowed to lend for periods of up to 10 years and in amounts of up to 60 per cent of the appraised value of improved property, if provision is made for the amortization of at least 40 per cent of the principal by the maturity date. Furthermore all banks are allowed to make FHA insured mortgage loans on an amortized basis.

Third, because loans on real estate are normally used to finance the purchase of land and the building of improvements, they are necessarily of remote maturity. This fact inevitably accentuates the problem of the basic security. Obviously, more changes can take place to affect the marketability of goods and services in five or ten years than can occur in six months. The demand for a certain commodity may disappear; a city, town, or a given subdivision may decline because of broad economic changes or purely local developments; or a sharp increase in local property taxes may reduce income. Here is the real problem of real estate loans. To avoid loss, enough care and foresight must be exercised when the loan is made to offset the possible effects of time. The real estate loan, if carefully and intelligently made with an ample margin of security, can be a valuable part of the bank's portfolio. But to be successful, the lender must measure long-time trends of industries and localities to a greater degree than must the short-time lender. It is insufficient to lay down a rule of 50 per cent of the appraised value of the property unless the appraisal goes beyond the temporary conditions existing at the moment when the loan is made and accurately takes account of the trend. It is little wonder that real estate loans have come to grief so frequently when made during times of real estate boom, with an eye only to the immediate fees and profits available. That real estate loans can be both safe and profitable is shown by the experience of the mutual savings banks. In 1932, 65 per cent of the loans and investments of the mutual savings banks of the state of New York were loans on real estate; ⁴ yet no savings banks failed in that state between 1911 and 1933.

⁴ *Annual Report of the Comptroller of the Currency*, 1932, pp. 534-536.

LEGAL REGULATION AFFECTING BANK LOANS

Because competition among banks and the self-interest among bankers cannot be relied on to insure safe lending policies among banks, the legislatures of the various states, as well as Congress, have provided regulations governing bank loans. There are several reasons for this. First, excessive competition has caused the banker to pay high rates of interest on deposits, which in turn stimulate the making of dangerous but high-interest-bearing loans and investments. Second, our unit banking system has brought more personal contact between customer and banker than is likely to exist in the larger and more impersonally managed branch banks of other countries. Hence there is greater danger of granting personal favors to friends, whether warranted or not. Third, our American banking traditions and methods have developed along the lines of American business. The banker is a businessman, and as such normally sees no reason why the funds of the bank should not be at his disposal. In other words, no well-defined professional attitude exists among American bankers.

For various reasons, then, it has seemed necessary to attempt control from the outside. The effort is frequently of little effect because of evasion, and because to some extent control has been misguided. It is next to impossible to supervise the banks in such a manner as to prevent violations of the law, as is evidenced by the not infrequent discovery of violations that have been going on for years before bank failures. Moreover, when violations are discovered, the examiners and supervisory authorities sometimes fail to take adequate and prompt measures to terminate them. Yet, it must be said that the great majority of bankers attempt to obey the law and that the legal regulations seriously influence the make-up of bank portfolios.

Limits on loans to one borrower. Perhaps the most common form of regulation of bank loans deals with the size of loans which a bank is permitted to make to any one borrower. The purpose of such regulation is in part, at least, to insure some degree of diversification among the bank's loans. When enforced, it tends to give diversification as to individual borrowers, although it quite obviously fails to insure diversification among industries or territories, which is of almost equal importance. Further, it is sometimes said that the rules limiting the size of individual loans are designed to insure that the lending capacity of banks is not

monopolized by a few borrowers but is made available for the community at large. Whatever the purpose behind such regulations, they are universally found in American banking laws.

The limitations placed upon the loans of banks to one individual or firm may best be illustrated by the National Banking Act.⁵ A national bank may lend to any one borrower (including, in the case of partnerships, the obligations of any partner, and in the case of corporations, all subsidiaries in which the corporation has a controlling interest) not more than 10 per cent of its capital and surplus. To this limitation there have been grafted exceptions which ease the burden of the 10 per cent rule. Excepted altogether from its operation are: (1) obligations in the form of drafts and bills of exchange drawn against actually existing values; (2) acceptances of member banks; (3) obligations arising from indorsement and discount of commercial paper owned by the person concerned; and (4) obligations representing loans to banks or receivers or conservators of banks when approved by the comptroller. Partial exceptions are made in the case of: (1) obligations arising from the indorsement and negotiation of noncommercial paper owned by the person negotiating it, for which the limitation is 15 per cent of the bank's capital and surplus, in addition to the 10 per cent; (2) obligations secured by United States obligations or those guaranteed by the United States, for which the limitation is 15 per cent in addition to the 10 per cent; (3) obligations secured by livestock worth 115 per cent of the loan, on which the limit is 15 per cent, in addition to the 10 per cent; and (4) obligations secured by documents of title to readily marketable, nonperishable staples, for which the limit is an additional 15 per cent above the 10 per cent, provided the market value of the staples is not less than 115 per cent of the loan. But the limit is expanded by 5 per cent of the bank's capital and surplus for each 5 per cent additional margin of collateral, up to a maximum of loans amounting to 50 per cent of the bank's capital and surplus if the collateral is worth 140 per cent of the face of the loan.

The exceptions that have been grafted on to the original rule in large measure constitute concessions to the national banks in order that they might more easily meet the competition of state

⁵ *Revised Statutes*, Section 5200.

banks, for which the rules are generally more lenient. The whole rule has been criticized as cumbersome and unsatisfactory. It reduces the ability of the smaller banks to attract and keep the loan accounts of the commercial and industrial concerns that are unable to obtain adequate credit accommodation under the 10 per cent rule applying to all straight single-name commercial paper loans. These better borrowers in many smaller cities are compelled to resort to the open market for commercial paper or to the larger banks in the financial centers. Thus many banks are deprived of their best possible borrowers by the rule. To offset this limitation, they must either buy commercial paper at low rates in the open market, if available, or lend to less desirable borrowers of the community. It seems certain that diversification and safety of loans might be insured more successfully by modification of the rule, particularly as it applies to unsecured paper. Not only has this rule tended to deprive smaller bankers of some of their best borrowers, but also it has had some influence in the promotion of mergers of banks in order to facilitate the accommodation of the large borrowers.

Loans on a bank's own stock. National banks, like state banks, are prohibited from making loans on the security of their own shares of stock. Were this not the rule, there would be the constant danger that stockholders might borrow from the bank the equity they are supposed to have contributed for the protection of the depositors. Such a result would be similar to the effects of the common practice in the days of early banking when stockholders paid for their stock subscription with their promissory notes.

Loans to executive officers and affiliate and security loans. New regulations on the loans of member banks were incorporated into the Federal Reserve Act by the amendments of 1933, 1935, and 1939.

These are:

(1) No executive officer of any member bank shall borrow from any member bank of which he is an executive officer more than \$2,500 and then only upon the approval of a majority vote of all the directors. However, loans by member banks to executive officers in force June 16, 1933, could be renewed where necessary until 1944. Lending to a partnership in which one or more executive officers of a bank hold a controlling interest is under this limitation. Moreover, if an executive officer of a member bank

borrow from any other bank, he is required to make a written report of such borrowings to the chairman of the board of directors of his own bank stating the date, the amount, the security for and the purposes of the loan.

(2) Member banks are forbidden to advance funds to any one affiliated company, either by making loans, purchasing stocks or bonds, or lending on collateral security of the stocks or bonds of such affiliate, to an amount greater than 10 per cent of the bank's capital and surplus. Total advances to all affiliates is limited to 20 per cent of its capital and surplus.

(3) The Board of Governors of the Federal Reserve System, upon affirmative vote of at least six members, may fix for each Federal Reserve district the percentage of individual member bank capital and surplus which may be represented by loans secured by stocks and bonds. Such a percentage shall be subject to change from time to time on ten days' notice and shall be established with a "view to preventing the undue use of bank loans for the speculative carrying of securities." The Board of Governors has an enforcement weapon in the power to suspend all rediscount privileges at the Federal Reserve Banks for offending member banks that violate its orders.

Classification of loans by examiners. In 1938 the Secretary of the Treasury initiated conferences between the representatives of the FDIC, the Comptroller of the Currency, and the Board of Governors of the Federal Reserve System to review, improve, and co-ordinate the supervisory activities of these agencies in the interest of broadening the bank credit opportunities of the small and middle-sized business firms. As a result, new uniform practices were agreed upon in respect to the classification of bank loans.⁶ The old classification contained three groups of loans which were subject to varying degrees of criticism: slow, doubtful, and loss. The classification "slow" was especially unsatisfactory, for no general agreement existed as to its real meaning in spite of its connotation of substandard assets. Examiners tended to include under this classification both loans on which the borrower had been forced to ask for renewals and sound loans made with original maturities of more than the conventional 90 days.⁷ This old classification of loans was therefore replaced by a new one. The present practice calls for a classification of a bank's loans into four groups. First are the loans whose repayment appears assured

⁶ *Federal Reserve Bulletin*, July 1938, p. 563.

⁷ Cf. *Annual Report of the Federal Deposit Insurance Corporation*, 1938, p. 72.

regardless of maturity, and which therefore are free from criticism. Second are *substandard* loans involving a substantial and unreasonable degree of risk. Because of the possibility of future loss such loans require careful attention. Third are loans whose collection is considered *doubtful*. Fifty per cent of such loans must be written off in calculating the bank's net sound capital. Finally, loans considered uncollectible must be charged off entirely.⁸

This new method of classification constitutes a recognition of actual practices of banks in making loans that are not actually short-maturing and self-liquidating in nature. It has the great advantage of allowing banks to lend for terms corresponding to the borrowers' actual needs rather than to pretend to maintain a false liquidity based upon loans for short terms that must be renewed. It has, therefore, contributed to the development of the use of "term loans" described earlier.

These legal regulations, governing the loan activities of banks are supplemented by numerous administrative regulations. The responsibility for enforcement rests upon the bank examiners and the supervisory authorities under whose direction they work. These regulations sometimes appear excessively severe and at other times too lax. And, even though compliance by bankers is sometimes less than perfect, one cannot doubt that banking practices and bank development have been profoundly influenced by the controls imposed upon them.

Questions for Study

1. What borrowers carry and purchase securities on loans secured by stocks and bonds?
2. To what loans do the margin requirements set by the Board of Governors apply?
3. Examine Table 10. Why do the figures given for single payment consumer loans probably exaggerate the facts?
4. Explain why cash installment loans may sometimes conflict with the state usury laws.
5. What is the difference between agricultural loans and real estate loans?
6. What special care is needed in making real estate loans?
7. Why are real estate loans now better for both the banker and the borrower than they were 30 years ago?

⁸ *Federal Reserve Bulletin*, July 1949, pp. 776-777.

8. Why does the law set limits to the size of loans to one borrower? What in general are the exceptions which have been made to ease the restraint of this rule?
9. Why is it not permissible for banks to lend on the security of their own stock? Why is it desirable to limit sharply the loans of a bank to its own executive officers?
10. What is the present classification of loans used by examiners? How did the adoption of this classification help establish the practice of making term loans?

Bank Investments

FINANCING THE SHORT-TERM NEEDS OF BUSINESS AND AGRICULTURE has been the traditional function of commercial banks. As we saw in Chapter 12, however, banks have in fact departed considerably from the traditional path by making loans to speculators and dealers in securities, to consumers, and on real estate. But the purchase of long-term business securities for investment purposes has never acquired the magnitude or importance of bank loans. In general, the purchase of securities is not looked on as a primary banking function but rather is relied on mainly to fill gaps in the portfolio left by a slackening demand for loans. During the depression years of the 1930's, banks expanded their investments greatly. But the expansion was in holdings of government obligations rather than in bonds of private corporations.

During the war period, 1942-1945, the Treasury relied upon the banks to fill the gap between its needs and the funds provided by taxation and the sale of securities to savers. Consequently, armed with ample reserve cash provided by the Federal Reserve Banks, the commercial banks purchased about \$68 billions of U.S. Treasury obligations and created, in so doing, a substantial quantity of checking account money.

SECURITIES BOUGHT BY BANKS

An examination of Chart 4 on page 163, Chapter 11, reveals the overwhelming importance of government obligations among the investments of banks. This predominance of U.S. Government obligations is most significant. Not only do they far outshadow the other types of bank security investments, but they are greater than all other earning assets combined.

The great increase of U.S. obligations calls for special comment. First, the present-day supply of checking account currency has to a great extent resulted from commercial bank purchases of these securities. In other words, the banks have "coined up" a large quantity of the public debt into money and from this action stemmed the inflationary problem of the postwar period. Second, a glance at Chart 6 discloses that most government obligations held

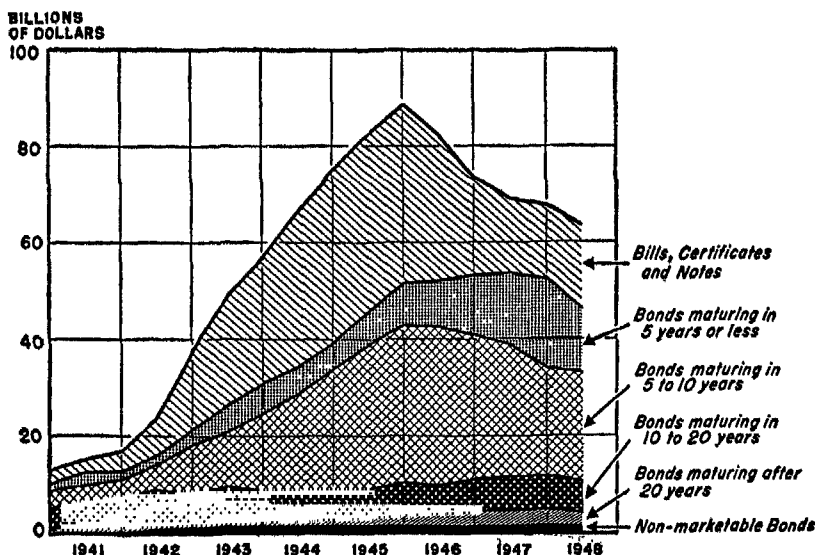


CHART 6. MATURITY OF DISTRIBUTION OF UNITED STATES GOVERNMENT OBLIGATIONS HELD BY INSURED COMMERCIAL BANKS, 1941-1948. Source: *Assets and Liabilities*, June 30, 1948, Operating Insured Commercial and Mutual Savings Banks, Federal Deposit Insurance Corporation.

by banks have maturities of ten years or less. This is the result of definite Treasury policy. Before the war, commercial banks were free to purchase all marketable issues, regardless of maturity. To encourage the maximum absorption of marketable issues by nonbank investors, during the war, some long-maturing bonds, bearing a rate of interest higher than that on shorter issues, were made ineligible for bank purchase for a number of years after issue. An exception to this was made in which commercial banks could subscribe to amounts limited to some fraction (20 per cent, for instance) of their total time deposits. Other negotiable issues, although eligible for banks to hold, were not open to purchase by

the banks during the bond selling campaign. They were, of course, purchased later by banks, since individuals resold bonds subscribed for during the bond drives in amounts above what they actually wished to carry. Banks also bought government securities from private and institutional holders seeking cash to facilitate their participation in future bond drives.

RISKS FROM BOND INVESTMENTS

Two major risks must be assumed by banks in connection with their investment accounts. The first arises from the danger of quality deterioration within the portfolio. The second is the risk of loss of value of high-grade bonds that fluctuate in value with changes in interest rates. A bank may escape one or the other of these risks but can hardly escape them both if it holds long-term securities.

The risk from speculative securities. Although most banks now find themselves prohibited by law from purchasing speculative securities, nonmember banks are still relatively free from regulation in some states. Consequently, speculative securities are sometimes bought, legally or illegally, and create a problem for both the bank and the examiners. Speculative securities offer two opportunities for gain and hence are tempting to bankers. First, they yield relatively high rates of return. Second, if bought when the market is low, they offer the possibility of a speculative gain in value. But they have proved to be a serious source of embarrassment to banks, owing both to their weakness under fire of heavy liquidation in times of panic and to their default in times of stress. If the bank is compelled to liquidate such bonds to strengthen its reserve position, it may have to do so at a heavy sacrifice. Bankers, during the depression years of the early 1930's, sometimes purchased cheap speculative securities in the hope, generally vain, that their subsequent rise in value would help recoup losses previously suffered.

Even when banks have purchased only investment securities there is a possibility that the credit standing of the debtor corporation may worsen and the securities deteriorate from investment classification to that of speculative securities. To avoid losses from this source, bankers must watch their portfolio carefully, and promptly dispose of securities showing a tendency to decline in quality.

Risks from ownership of high-grade bonds. So long as bonds held by banks remain in the high-grade investment class, there is no risk of loss arising from the credit position of the borrower. Nevertheless, high-grade investments, including U.S. Government obligations, are exposed to possible losses arising from changes in interest rates. Banks are especially exposed to this risk when they use investments to absorb excess lending power during periods when the demand for commercial loans is slack. This has led some to hold that banks are poor bond buyers, implying that they tend to buy at high prices and sell at low prices, thus taking capital losses that offset the earnings. Banks normally attempt to accommodate their own customers first, since the banker feels a special obligation in this regard. If business is brisk and times are good, the number of sound local borrowers is likely to increase. A shortage of loanable funds tends to force up short-time money rates, which in turn reduces the attraction of fixed interest-bearing bonds to all lenders and investors. Bond prices tend to fall, therefore, just at the time when bankers are likely to be selling securities to obtain funds needed for the accommodation of local borrowers. This sale of securities helps to depress the bond market still more. On the other hand, when business is dull and local demands for funds are few, the banks seek opportunities to invest idle reserves. The prices of bonds at such times are increased, because they provide a more attractive investment for all money lenders, including the banks. Therefore, the banks are always on the wrong side of the market. It is likely, however, that the banks have not, in fact, suffered any very serious losses from this cause. A greater danger of loss on high-grade securities arises from the possibility that local conditions or a general credit crisis may compel the bank to dispose of a large amount of high-grade bonds at a time when interest rates are high and such bond prices low. The possibility of losses from such a source may be seen in the following spread of high-grade bond prices:

United States Treasury $4\frac{1}{4}$'s, sold at par in 1918, were selling at 78 in 1920.

United States Treasury $3\frac{1}{4}$'s (callable in 10 years) sold at 99 in September, 1934, and at 110.15 in December, 1936.

United States Treasury 4's, 1954, sold at 94 in January, 1932, and at 116 in December, 1936.

Sante Fe General 4's of 1995, sold at 104 $\frac{1}{2}$ in 1906, at 69 in 1920, and at 111 in 1934.

Evaluating the bond account. The extreme decline in bond values during the years 1931 and 1932 placed the problem of determining the proper method of evaluating the bond inventory of banks squarely before those who were in charge of bank examination and reports. The examiners for the Comptroller of the Currency, generally speaking, based their valuations on present market value. The sharp decline in security prices during 1931 made some modification of such a rule imperative if good banks were not to be made to appear insolvent. In September of that year the Comptroller issued instructions to his examiners to classify all the securities of the banks examined into 13 grades, the classification to be based upon the lowest rating given the bonds by four statistical agencies. Bonds falling into the four highest of the 13 grades were exempt from a charge-off for depreciation in market value so long as they were not in default. Bonds in the remaining nine grades were to be marked down to their market values by a semiannual charging off of 25 per cent of the depreciation until the full amount had been written off, unless the bond was in actual default, in which case it was to be marked down to its market value at once. The importance of such a rule is evidenced by the fact that between January 1929, and April 1933, the *New York Times* index of average market prices of forty high-grade bonds declined one third. The seriousness of such a depreciation can be visualized by applying it to the investments of the national banks. A decline of $33\frac{1}{3}$ per cent in the market value of national bank investments in 1929 would have wiped out 63 per cent of the stockholders' equity.

In 1938, new rules were laid down governing the evaluation of bond accounts of all insured banks. The new rules were applicable to national banks, state member banks, and insured non-member banks. As amended in July 1949, they are:

1. Securities owned by banks are classified by the examiners into four basic groups:

Group I consists of securities in which "the investment characteristics are not distinctly or predominantly speculative." This group includes rated securities falling into the four highest rating grades (for example, Aaa, Aa, A, Baa, according to one method)¹ and unrated securities of equivalent value.

¹ The dependence of examining and supervisory officials upon the ratings of bond-rating companies in determining what are to be classed as "investment securities" has been severely criticized. Cf. Palyi, Melchior, "Bank Portfolios and the Control of the Capital Market," *Journal of Business*, 1938, pp. 70-114.

Group II consists of securities in which the "investment characteristics are distinctly or predominantly speculative." This class includes securities, not in default, rated below the four highest grades or their equivalent in unrated securities.

Group III consists of securities (bonds) in default.

Group IV consists of corporate stocks.

2. Securities in Group I are to be evaluated at cost, with neither appreciation nor depreciation shown on the examiner's reports. Moreover, appreciation and depreciation of such securities will be disregarded in computing a bank's net sound capital. Thus, so long as a bank's securities remain within the classification of investment securities, no question of inventory losses need arise unless an actual loss is realized through sale.

3. Securities in Group II are valued at their market price and 50 per cent of any net depreciation so calculated must be deducted in computing the bank's net sound capital.

4. Net depreciation in securities classified in Groups III and IV must promptly be written off as losses. Such securities must be carried at market value.

5. Premiums paid when securities are purchased must be amortized so as to be written off at maturity.

6. Until losses have been written off and adequate reserves established, profits from the sale of securities may not be used for any other purpose.

The latest regulations governing the evaluation of securities relieves the banks of the danger of loss due to a fall in capital value of high-grade bonds so long as they are not actually liquidated in the market. To the extent that the long-term investments are protected by an adequate margin of short-maturing securities not subject to capital loss with changes in interest rates, the banks are now in no danger of suffering any serious loss from the purchase of long-term securities. This point is especially important now when securities (largely governments) comprise such a large fraction of bank earning assets. The distribution of maturities of securities held by the banks, therefore, takes on considerable significance.

Liquidity of bank investments. To the extent that banks are amply fortified with liquid assets, the risk of loss from holding high-grade bonds is very small. One may judge the degree of hazard to which commercial banks are exposed in this respect by examining the maturities of U.S. obligations, which constituted the bulk of their securities at the end of 1949.

TABLE 11

SECURITIES HELD BY COMMERCIAL BANKS (INCLUDING STOCK SAVINGS BANKS)
ISSUED OR GUARANTEED BY THE UNITED STATES DECEMBER 1949 *

Total amount	\$61,370,000,000
Treasury bills 3 months	3,514,000,000
Treasury certificates 9-12 months	11,520,000,000
Treasury bonds and notes due or callable	
Within 1 year	9,014,000,000
In 1 to 5 years	24,907,000,000
In 5 to 10 years	6,995,000,000
After 10 years	3,887,000,000

* Source: *Federal Reserve Bulletin*, March 1950, p. 350.

About 80 per cent of the investments of commercial banks in U.S. obligations had maturities of under five years, and over 39 per cent matured within one year. From this analysis one may properly conclude that the average commercial bank possesses sufficient amounts of short-dated investments to meet liquidity requirements without difficulty and without loss. This, of course, does not necessarily mean that every individual bank is so situated. But the high degree of liquidity in commercial bank holdings of government bonds clearly indicates the fallacy of the argument, commonly offered, that support of the market price of government bonds by the Federal Reserve Banks is necessary to prevent disastrous impairment of the solvency of the banking system.

REGULATION AND ADMINISTRATION OF BANK INVESTMENTS

Legal regulation of bank investments. Quite naturally, security investments of banks have been influenced by legislation and the rules laid down by examining authorities. Generally speaking, the regulations governing the investments of banks operating under state charter (except savings banks) have been more lenient than those applying to national banks. Although originally the national banking law made no mention of the right of national banks to invest in other than government bonds, such banks have for many years carried bond investments. Specific legislation regulating the investments of the national banks was provided in amendments passed in 1927, 1933, and 1935. As the law now stands, national banks may: ²

² *Revised Statutes*, Section 5136. See also the Federal Reserve Act and Agricultural Credits Act of 1923. State member bank investments are, by the act of 1933, subject to the same regulations as those of national banks.

1. Purchase and sell investment securities for customers without recourse against the bank.

2. Purchase investment securities for their own account, provided that the obligations of any one maker shall not exceed 10 per cent of the bank's capital and surplus. No restrictions apply to bonds of the United States or any political subdivisions thereof, or to obligations arising under the Federal Farm Loan Act or issued by the Federal Home Loan Banks, the Home Owners' Loan Corporation, or the Federal Housing Administrator when guaranteed by the United States. The Comptroller of the Currency may define "investment securities."³

3. Invest in corporate stocks only as follows:

- (a) They may invest not more than 15 per cent of their capital and surplus in any corporation organized to conduct a safe-deposit business.
- (b) Without special permission of the Comptroller of the Currency, they may invest in bank premises or in stocks and bonds of a corporation holding the premises of the bank not more than the amount of their capital stock.
- (c) They may buy the necessary stock in the Federal Reserve Banks.
- (d) They may buy stock in banks to engage in foreign banking (limited to 10 per cent of the bank's capital and surplus).

³ The regulations by the Comptroller on this point include the following requirements:

1. They must be saleable under ordinary circumstances with reasonable promptness at a fair value.

2. Such public distribution must exist as to insure the marketability of the issue; or,

3. Other existing securities of the obligor must have such a public distribution as to protect or insure the marketability of the issue; or,

4. In case such public distribution is impossible for sound issues of established commercial or industrial firms, it is sufficient that (1) they demonstrate ability to service the issue, (2) the maturity of such securities be not later than ten years after the date of issue, and (3) at least 75 per cent of the debt will be amortized at maturity.

5. Where the security is issued under a trust agreement, the trustee must be a bank or trust company independent of the obligor.

6. They must not be distinctly or predominantly speculative, nor may they be in default as to either principal or interest.

7. The bank must provide regular amortization of any premiums paid above par. In no event shall the security be carried at a value above the price at which the obligor may redeem it.

8. Securities convertible into stock at the option of the issuer may not be purchased. Where such conversion is at the option of the holder, securities may be purchased only at prices representing their true investment value.

9. These restrictions do not apply to real estate securities acquired under Section 24 of the Federal Reserve Act. *Federal Reserve Bulletin*, July 1938.

- (e) They may buy stock in National Agricultural Credit Corporations (limited to 10 per cent of the bank's capital and surplus).

In view of the unfortunate experiences of banks with their bond accounts during depressions, it seems desirable that some standard of quality of bond investment similar to that required of well-regulated mutual savings banks be set by law for all banks.

Repurchase agreements. Not all bonds reported by banks as a part of their portfolios actually represent investments in the ordinary sense of the term. Some are bought under a repurchase agreement by the seller, who contracts to buy the bonds back at a stated price and at a stated time. The bond thus closely resembles a security loan to the seller. The use of the repurchase agreement, most common in New York City, is explained partially by the fact that it enables banks virtually to lend to one borrower an amount in excess of the statutory limit. Further, the bank's customer obtains the full market value, since no margin requirement applies. The bank obtains the coupon rate of interest; and where the bonds are tax exempt (government and municipal bonds being most commonly used), it obtains a tax-exempt income. The bank may be able to reduce the volume of its security loans if it wishes, while the borrower may be able to conceal in its statement of condition what are essentially "bills payable."

Administration of the bond account. The importance of bonds among the assets of banks introduces the vital problem of intelligent purchase. This involves: (1) the question of the general quality of appropriate bonds; (2) the investigation of the proper rating of individual issues the purchase of which is contemplated; and (3) the administration of the bond account once it is set up. It is evident that the bond account involves problems similar in general outline to but different in specific details from those of commercial loans. It requires careful and constant analysis of the bond market, which in itself demands a high degree of specialized skill.

In order to avoid the losses that arise from buying bonds when they are expensive and selling when they are cheap, the bond account, except bonds carried for secondary reserve, might be made a permanent part of the bank's portfolio regardless of the ebb and flow of the customer demand for loans. This account should consist mainly of "money bonds" or bonds of the highest grade.

The temptation to buy low-grade bonds to increase earnings should be resisted, even in the face of high competitive interest payments on deposits, if losses through default are to be avoided in times of stress.

The problem of choosing high-grade bonds which are of maximum benefit to the bank is a difficult one. Country banks must to a large extent rely upon their city correspondent for advice. The city bank itself must be adequately provided with expert investment officers who can utilize the numerous agencies and services which collect data on companies with bond issues as well as conduct independent investigation of the quality of bonds appearing in the market. Naturally, purchases of bonds must not be made upon the sole recommendation of the underwriters or bond salesmen.

Once the bonds have been purchased, their standing should be scrutinized at frequent intervals if losses are to be avoided. Moreover, the bond account will show more profit if a sufficient part is in issues which are sufficiently close to maturity to insure an opportunity for disposing of them without loss. This periodical examination enables the bank to take advantage of changes in the market for bonds. At times, when long-term, high-grade bonds decline in price, the banker in such a position can purchase them on favorable terms. Further, when long-term bonds appear to have reached their peak, the watchful investment officer will dispose of his holdings and acquire shorter maturities less subject to the decline which will accompany higher money rates. In this manner the "cost" of the bonds making up the security account may be kept at a minimum, thus improving the yield.⁴

THE SOURCES OF BANK EARNINGS

The operating earnings of commercial banks fall into five separate categories based on their origin. These are earnings from: (1) loans; (2) United States Government securities; (3) other securities; (4) service charges; and (5) other earnings. Quite naturally,

⁴ For a good discussion of the problem of bond investments for banks, see an article in the *American Bankers Association Journal*, October 1932, entitled "Investments," by Arthur B. Taylor, Chairman of the Bank Management Commission, American Bankers Association. This article is based upon the results of a survey of bank investments by the commission and has been heavily relied upon in the foregoing discussion.

earnings from banks' "earning assets" (loans and investments) comprise the largest part of total earnings.

Bank earnings from loans and security investments. Since the 1930's when bank investments became predominately government securities, the *rate* of earnings on bank held securities has been substantially lower than the earning rate on loans. Nevertheless, because of the relatively greater magnitude of investments, during the period 1943-1947, member banks, on the average, earned more from their investments than they did from loans. Tables 12 and 13 show the rates of earnings and the percentage of total earnings from each of these two main sources of bank income. So far as ultimate profitableness is concerned, allowance must be made for the lower risk and lower cost of administration of the investment account as contrasted with the cost of making loans. The figures given do not include allowance for losses, recoveries, or profits from sale of securities.

TABLE 12
RATES OF MEMBER BANK EARNINGS ON LOANS
AND SECURITIES *

	<i>Loans</i>	<i>Security Investments</i>
1937	4.0%	2.5%
1938	4.0	2.4
1939	4.2	2.3
1940	4.2	2.1
1941	4.0	1.9
1942	3.7	1.7
1943	3.5	1.4
1944	3.2	1.5
1945	3.0	1.5
1946	3.2	1.5
1947	3.5	1.5
1948	3.8	1.5

* Compiled from the *Federal Reserve Bulletin*.

Distribution of total earnings. Chart 7 provides a graphic picture of the relative size of the different kinds of commercial bank operating earnings and the several categories of costs incurred in making these earnings, for the year 1948. Although over 82 per cent of earnings come from loans and investments, a substantial amount is provided from other sources. "Other earn-

TABLE 13
PERCENTAGE RATIO OF MEMBER BANK EARNINGS ON INVESTMENTS
AND LOANS TO TOTAL EARNINGS *

	<i>Investments</i>	<i>Loans</i>
1939	34.2%	43.3%
1940	32.5	45.0
1941	31.4	47.0
1942	36.3	43.0
1943	46.4	34.1
1944	51.2	30.1
1945	54.0	28.0
1946	50.0	32.2
1947	41.4	40.4
1948	35.8	46.2

* Compiled from the *Federal Reserve Bulletin*.

ings" come mainly from trust departments and safety deposit business. Service charges, although but 5.1 per cent of total operating earnings, are especially fruitful since, unlike the lending and investment activities of banks, they involve little added expense save that of calculation and application. The service charges of banks belonging to the Federal Reserve System, in 1948, amounted to 1.6 per cent of their invested capital or 16 per cent of the banks' profits before income taxes.

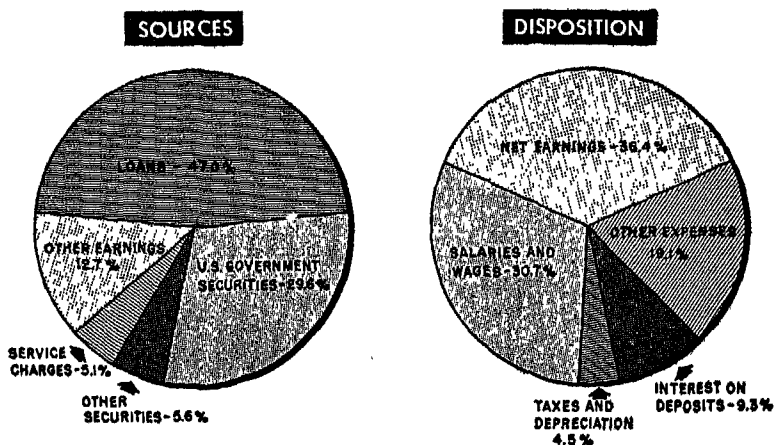


CHART 7. SOURCES AND DISPOSITION OF CURRENT OPERATING EARNINGS OF INSURED COMMERCIAL BANKS—1948. Source: *Annual Report of the Federal Deposit Insurance Corporation*, 1948, p. 43.

Chart 7 also shows the distribution of operating earnings among the major classes of expenses. Net earnings, amounting to 36.4 per cent of the total, are not all net profits for distribution to the stockholder or reinvestment. Charge-offs for losses and reserves as well as allowances for recoveries must be made. Income taxes took 27 per cent of the net profits after adjustment for charge-offs and recoveries.

CONCLUSION

As we review our study of bank investments, a number of notable changes in the earning assets of banks stand out clearly in the experience of the last twenty years. First is the tremendous increase in the relative size of bank investments as compared to loans. Begun during the great depression of the 1930's, this movement was sharply accentuated by the war. Second is the rise in relative importance of the obligations of the Federal Government and the decline of securities issued by private firms (industrial, railroad, public utility bonds, and so on). In the late 1920's, private security issues made up approximately 45 per cent of commercial bank security holdings. At the end of 1948, they were less than 5 per cent of the total. This decline can be explained both by the enormous increase in United States Government obligations held by banks and by the decline in favor of private issues because of severe losses during the depression. In contrast, securities issued by state and local governments showed but a mild decline in relative importance in the same twenty-year period.

Finally, the predominant position assumed by the Federal obligations has greatly changed the whole picture of bank investments. Whereas, at the end of 1928, United States securities only amounted to about 12 per cent of member bank total earning assets and 41 per cent of their investments, twenty years later they were almost 55 per cent of total earning assets and 87 per cent of total investments. This change has made both the banker and the general public aware of the close and significant relationship between the Federal debt and the commercial banking system. It has been responsible for the somewhat complaisant attitude toward the thinning capital-deposit ratio of the banks, since government securities are considered nonrisk assets. In addition, it has provided a basis for the view that the government bond market should be supported and stabilized by the Federal Reserve Banks

to prevent loss by banks and other bondholders arising from a rise in interest rates. It has also brought sharply into focus the possible embarrassment that might result from any attempt to reduce the size of the government debt. It is possible, and perhaps even probable, that should the Federal debt be stabilized in future years, a gradual shift of government securities out of banks into other hands may occur. Such a development would be dependent upon a concurrent increase in the demand for bank loans, for banks will not voluntarily relinquish their security holdings unless they can be replaced by an equal volume of loans. In any event, it is most unlikely that the Federal debt will ever again become an inconsequential part of bank earning assets.

Questions for Study

1. How account for the great increase in the investments of banks during a) the 1930's, and b) the 1940's?
2. Re-examine Chart 4 on page 163. What do you find about the importance of government securities among bank investments?
3. Examine Chart 6. Are banks heavily loaded with long-term government securities?
4. What are the main risks to which banks are exposed when investing in a) speculative securities, b) high-grade long-term bonds?
5. Examine Table 11. On the average, are individual banks likely to be compelled to take capital losses as a result of liquidation of government security holdings to meet liquidity requirements?
6. What are the 4 groups into which security investments of banks are classified? What valuation is placed on each group?
7. What legal regulations govern member bank security investments?
8. Examine Tables 12 and 13. Can you explain the appearance of the trend of earnings from loans and investments?
9. Why did the relative importance of corporate securities decline so sharply after 1928?

The Bank's Portfolio

Requirements of a bank's portfolio. We have considered the various forms that a bank's earning assets may take. These earning assets, as they actually exist in any given bank, make up its portfolio. The portfolio must be arranged with three distinct considerations in mind: (1) liquidity; (2) solvency; and (3) earnings. Without liquidity, the bank cannot operate and meet depositors' demands. Without solvency, it must ultimately fail, with subsequent losses realized by the stockholders and probably by the depositors. Finally, without earnings, the banking operations cannot be carried on by private enterprise.

It is apparent that these three essential requirements placed upon the bank portfolio are not altogether in harmony. True, liquidity implies short-run solvency, to say the least, but it varies inversely with the earning power of assets. Likewise, it is possible to achieve ultimate solvency without liquidity, as is illustrated by the well-secured real estate loan. Finally, earnings are often sought at the expense of both liquidity and solvency. It is evident that, essential as they are, earnings must at all times be made secondary to the requisite liquidity and the solvency of the bank. This must not be construed, however, to mean that bankers should never make a loan or an investment that is less sound than the maximum humanly possible. Such an attitude would be too rigorous for business, which cannot well provide absolute security for its borrowing. But any margin of speculation in the portfolio should be amply covered by the stockholders' equity.

Obviously, liquidity is the first consideration in organizing the portfolio. Without adequate provision for this, the bank faces certain extinction when the pressure of deposit withdrawals is met.

To maintain excessive liquidity is to sacrifice earnings. It is clear that a bank should carry liquid assets in amount sufficient to meet: (1) the seasonal demands of depositors, which can be forecast in the light of experience; and (2) the cyclical variations in deposits, taking measures to increase the liquidity of the portfolio during times of boom or excessive prosperity. It is probably too much to expect the average banker to anticipate and guard against such cataclysmic disturbances as took place in the banking field from 1930 to 1933 when the loss of confidence in banks by the public caused the complete breakdown of banking functions. A bank's cash or primary reserve and its "secondary" reserve are relied upon to provide liquidity. After the necessary liquidity has been provided, the remainder of the bank's portfolio may be arranged with an eye to solvency and earnings only. Naturally, the particular kind of assets used will depend to a large extent upon the type available. The notes of industrial firms and merchants who are customers of a bank will find their way into the less liquid part of the portfolio. Real estate mortgages and investments in bonds will also be included.

SECONDARY RESERVES

Relation of primary to secondary reserves. The primary reserves of a bank consist of cash on hand and demand deposits in other banks, which are equivalent to cash. The relation of these reserves to the bank's deposits has already been considered in Chapter 9.

The cash reserves of banks, whether required by law or carried by the banker by his own choice, are designed to meet the immediate net withdrawals of deposits as they develop from day to day. Because such cash reserves are normally meant to meet only immediate needs, it is necessary that banks be prepared to convert some of their earning assets into cash whenever the cash reserves fall below the level dictated by sound judgment or the law. Seasonal changes in depositors' and local borrowers' requirements may put heavy pressure on a bank's cash position. To meet this, the bank must either carry excessive cash in the slack season, obviously an uneconomical procedure, or it must carry highly liquid earning assets that can be readily disposed of *without loss*. Such assets are called *secondary reserves*. The need for secondary reserves also increases with prosperity, since a subsequent collapse

will endanger the ability of the bank to meet unforeseeable drains unless it is fortified with liquid assets.

Size of secondary reserves. The relative size of a bank's secondary reserve depends upon a variety of circumstances. Primarily, the nature of the bank's business, the diversification of deposits, the seasonal variations in cash requirements, all determine the volume of highly liquid assets required by any individual bank. The correct amount can be discovered only through experience. In addition to the minimum requirements indicated by experience, the conservative banker must necessarily allow for unusual, unpredictable needs. Local or general depression in business often tends to set up a heavy adverse trade balance for a given area, which then experiences heavy drains of cash out of the banks located therein. A loss of confidence in banks growing out of business and bank failures may also create trouble. Since such needs are more likely to arise at the culmination of periods of prosperity or boom, it would seem desirable that particular care be taken to maintain a high proportion of liquid assets at such times.

The impossibility of generalizing too much in the matter of necessary secondary reserves is emphasized by Mr. Fred A. Garlock in an article entitled "Two Country Banks in Iowa and Virginia":¹

Measures intended to assure the solvency of country banks often are formulated with little regard for the vast differences among these institutions. The differences are not merely nominal. On the contrary, they are so great that requirements or policies which may be well adapted to some banks are sometimes totally unsuitable for others. Although much can be said in favor of uniform standards of banking practice, it is easily possible to carry the idea of uniformity too far.

An excellent example of this point is found in the varying needs of country banks for liquid assets. Instead of discussing the subject in general terms, let us use two banks, representing widely different types of country banking, for comparative analysis. Both institutions were organized before 1910 and still maintain open doors to their customers. Although their policies may not have been the best, the banks at least have survived these troublesome times.

The comparison begins with the types of agriculture served by

¹Quoted by permission from the *American Bankers Association Journal*, October 1932, pp. 54-57.

the banks. One is located in central Iowa where a combination of crop and livestock enterprises produces a year-round income for farmers, and the expenses of production also are spread throughout the year. The other is located in a section of Virginia where the principal sources of income are early white potatoes, peas, lima beans, and a few other perishables. Expenses of production in this area are heavy from November to the middle of June, but the marketing season covers only the period from May through September. A large part of the income is received in June and July.

The effects of these differences are clearly apparent in the deposit trends of the two banks. In the Iowa bank, deposits run a comparatively even course with little fluctuation from one time of the year to another. Deposits of the Virginia bank, however, rise to a tremendous peak from May to July or August, after which they fall continuously to a low point in the following summer.

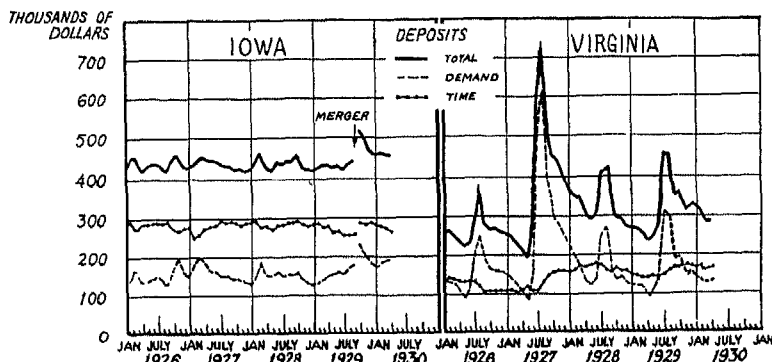


CHART 8. VARIATIONS IN DEPOSITS OF AN IOWA AND A VIRGINIA COUNTRY BANK. Source: *American Bankers Ass'n Journal*, October 1932.

Moreover, changes in the annual minimum and maximum levels of deposits are greater in the Virginia bank than in the Iowa bank.

In so far as the seasonal demands of depositors determine the need for liquid assets, it is obvious that these two banks are in radically different positions. Seasonal requirements of the Iowa bank's depositors impose little need for liquidity, as a comparatively small cash reserve would absorb most of the fluctuations of deposits. But the Virginia bank must hold liquid assets in July or August equal to 40 to 50 per cent of its deposits if it is to meet the withdrawals which commonly occur in the following months. An extra margin of liquid assets is needed to protect against annual changes in the lows of deposits. As the seasonal trough of deposits is approached, the volume of liquid assets needed, of course, grows less.

In both banks the need for liquidity arises more largely from the demand accounts than from time and savings accounts. . . .

An interesting method for computing the needed secondary reserves for any particular bank has been proposed by Elmer Hartzel.² He suggests that the expected maximum fluctuation in deposits be added to the changes in local loans if they move in opposite directions, and that one be subtracted from the other if they move in the same direction, in order to find the secondary reserve requirements to meet the needs for any particular time. Thus, if deposits tend to decline while local loans also decline, the decline in local loans provides the funds to meet deposit withdrawals. But if local loans increase with deposit withdrawals, secondary reserves must be available to meet the combined losses of cash from both sources. In computing the cash drain arising from deposit withdrawal, an offset allowance can be made for the accompanying decline in legal reserve requirements.

Composition of secondary reserves. There is some difference of opinion as to the specific type of banking assets that can properly be classified as secondary reserve. In one respect, however, there is general agreement. Secondary reserves should consist of *assets which can be turned into cash promptly and without loss*. Ready marketability is therefore a prerequisite for assets whose maturity is not immediate. Moreover, even readily marketable bonds should be reasonably near to maturity to avoid the possible loss attending a sale in times of tight money and high interest rates. Banks frequently find it necessary to dispose of bonds when high money rates cause the longer-maturing, fixed-interest-bearing obligations to lose market value.

More specifically, secondary reserves may include high-grade, readily marketable bonds *nearing maturity*. In addition, they may comprise high-grade, short-time commercial paper and bankers' acceptances. Prime commercial paper purchased in the open commercial paper market is well adapted for use as secondary reserve for several reasons. First, it can be purchased in amounts and with maturities that suit the needs of the individual banker. It is issued in convenient denominations. Maturities can be arranged so that funds will be forthcoming to the bank at such times as banking needs dictate. Since open-market borrowers do not

² "The Measurement of a Bank's Secondary and Investment Reserves," *Journal of Business*, October 1934, p. 344.

ask for renewals, their paper can be relied upon as a certain source of cash. Further, commercial paper, when within ninety days' maturity, is normally eligible for rediscount and can be turned into cash through sale, after indorsement, to the Federal Reserve Bank.

Bankers' acceptances form another valuable addition to secondary reserves. They are desirable because of their high quality and relatively short maturity. Their ready marketability is augmented by the willingness of the Federal Reserve Banks to purchase them at a quoted buying rate. Similar advantages exist for short-term government obligations. In addition, government securities, both long- and short-term, may be used as collateral for member banks borrowing at the Federal Reserve Banks.

Call loans on the stock market also may sometimes play an important part in secondary reserves. They are favored by the banker since they furnish him the most convenient method for making daily adjustments in his reserve balances. When reserves are above normal, the bank can increase call loans, and a reversal of the process enables it to correct reserve deficiencies. Such loans are more suitable secondary reserve for banks in the interior than for New York City banks. For the liquidity of call loans in times of financial stress depends in large measure upon the willingness and ability of the New York banks to come to the rescue and "bail out" the other bankers who are anxious to call their loans. The ability of the New York banks to bring assistance is further conditioned by their ability in turn to obtain advances from the Federal Reserve Bank of New York. It is improbable that the Federal Reserve Bank of New York would willingly shut off the needed funds and allow a stock market crash to develop into a financial panic.

There is a difference of opinion as to the propriety of including customers' paper eligible for rediscount as part of a bank's secondary reserve. To be sure, a member bank is normally able to obtain additional cash or reserves through the process of rediscounting. Why, then, should not such paper be counted as secondary reserve? Several reasons can be suggested. First, customers' paper cannot be rediscounted without the member bank's indorsement. Therefore, the bank cannot sell the paper outright as it can bonds, bankers' acceptances, and short-time treasury obligations. There exists always the contingent liability to make

good the paper if it is not paid by the customer at maturity. This consideration, combined with the fact that customers' paper is to a large extent renewed, means that the bank must normally stand ready to take up the paper by making a new loan to the customer to replace the old loan held by the Federal Reserve Bank. Finally, possession of eligible paper alone does not absolutely guarantee that the bank can obtain cash. Not only must the paper be eligible, but it must also be acceptable to the Federal Reserve Bank. Since the acceptability is partially based upon the member bank's indorsement, it follows that the Federal Reserve Bank may refuse to discount eligible paper for an overextended bank. Therefore, eligible customer's paper virtually resolves itself into a basis for borrowing at the Federal Reserve Bank rather than a source of permanent cash resources. To the extent that the banker's need for secondary reserve arises out of regular seasonal requirements, eligible paper would seem to reduce the need for other highly liquid paper. Normally it is considered proper for banks to borrow for such needs. But a further complication arises in the broadened basis of Federal Reserve Bank advances to member banks under Section 10b of the Federal Reserve Act. Under this Section banks may borrow on *any* sound assets regardless of eligibility. Obviously, it is hardly appropriate to hold that this privilege relieves banks from all need for secondary reserves. The expanded borrowing power granted by Section 10b does not relieve the banks from the necessity of carrying adequate *disposable* assets of stable value for secondary reserve purposes. Rather, it is viewed as a source of cash as a last resort.

Merits of different types of secondary reserves. A very practical problem confronts the banker who has determined the volume of secondary reserves needed. Which of the several possible forms should such assets take? This question can be answered only in the light of information regarding the safety, convenience, yield, and availability of the different forms.

Perhaps there is little choice between the several forms of secondary reserves on the grounds of safety of principal. Prime commercial paper, bankers' acceptances, and United States Government obligations all rank high in this regard. There has been some tendency to criticize call loans on this score, but regardless of the embarrassment that banks experienced with call loans during the time preceding the establishment of the Federal Reserve Sys-

tem, subsequent experience has been favorable. During the stock market crash beginning in October 1929, the interior banks were able to liquidate their call loans readily and without loss. This action was made possible by the willingness and ability of the New York City banks to lend call money freely to replace the funds withdrawn by corporations and country banks at the first sign of disaster.³

Some idea of the earnings that the banker may hope to realize on various forms of secondary reserve can be had from the New York City open-market rates. Such rates for January 1950 were:

Prime commercial paper, 4 to 6 months	1.31%
Prime bankers' acceptances, 90 days	1.06
Stock exchange call loan renewals	1.63
U.S. Treasury bills, 3 months	1.100
U.S. Treasury certificates, 9 to 12 months	1.12
U.S. Treasury notes, 3-5 years	1.39

The general picture of the holdings of liquid paper by banks as secondary reserve is indicated by the holdings of commercial banks as of the end of December 1949. These were:

Treasury bills	\$3,514,000,000
Treasury certificates	9,561,000,000
Treasury notes	5,569,000,000
Open-market commercial paper	257,000,000
Bankers' acceptances	272,000,000

It is clear that banks today must rely upon the short-term Treasury obligations for their main secondary reserves. Because they are highly shiftable to other banks or to the Federal Reserve Banks such paper makes excellent liquid holdings. The very limited supply of commercial paper and acceptances now precludes dependence upon them.

SELF-LIQUIDATING AND SHIFTABLE ASSETS

Self-liquidating loans. The requirements of liquidity and solvency raise the fundamental problem of the appropriate form which bank assets should take. In particular, it raises the ques-

³ During the week ending October 30, 1929, loans to brokers for out-of-town banks made by New York banks declined \$800,000,000, while the New York banks increased their own brokers' loans \$1,000,000,000. The Federal Reserve Bank of New York facilitated this action by discounting \$150,000,000 worth of paper for members and buying \$150,000,000 worth of United States Government securities in the open market. *Federal Reserve Bulletin*, November 1929, p. 703.

tion of the importance of self-liquidating paper as compared with paper that is not self-liquidating. The position of many writers on banking theory is that commercial banks should confine themselves to making loans to finance the short-time current working capital needs of commerce and industry.⁴ These loans have the advantage of being self-liquidating in character and therefore more appropriate for banks with demand liabilities, because of both liquidity and security. This theory holds that commercial banks should avoid making advances to industry to provide fixed capital, but should leave such loans to other financial agencies without demand obligations (such as savings banks, investment trusts, and the bond market in general).

In spite of this theory, American banks generally have in practice departed from the exclusive holding of self-liquidating commercial paper. One need but examine the growing importance of securities among bank earning assets to discover this fact. Also loans on real estate and loans to security dealers, investors, and speculators are for the most part used for fixed capital rather than for temporary working capital purposes. Since this is the trend, it is of little use to bewail the departure from the standards of classical bank theory. We are confronted with an actual situation that appears, with some notable exceptions, to work fairly well in practice.

Let us examine self-liquidating commercial paper and observe its similarities to and differences from other forms of bank loans. Self-liquidating commercial paper arises in connection with a loan to a borrower who uses the proceeds to increase his working capital. This new working capital, in the normal course of events, will be transformed into salable goods or services which will return to the borrower the funds with which to pay the loan. If the period of the loan is long enough to enable the borrowed capital to make the cycle—from money, to working capital, to salable goods, and back to money again—the loan may properly be called self-liquidating. If the period of the loan is too short, it is not self-liquidating. It follows from the above definition that a loan whose proceeds are to be used by the borrower to acquire fixed capital goods

⁴For example, see Willis, H. Parker, Chapman, John M., and Robey, Ralph W., *Contemporary Banking*, New York, Harper & Bros., 1933, p. 437. See also Waldo F. Mitchell, who quotes numerous writers to a similar effect in an article on "The Liquidity of Bank Earning Assets," *Journal of Political Economy*, 1923, p. 245.

might be self-liquidating if the loan were to run for a period of time sufficient for the capital goods to earn back the interest and principal of the loan.

The continuous borrower's paper. Some question may arise concerning the self-liquidating character of short-time loans made to firms engaging in continuous operations with very little seasonal variation. If they borrow at banks, they tend to borrow constantly. Should their paper be considered self-liquidating in the face of the fact that their borrowing tends to be continuous? From a strictly logical viewpoint, such paper can hardly be considered self-liquidating for the reason that the borrowing firm is not automatically able to retire the loan at its maturity. To require that the borrower pay the loan at maturity would involve either a reduction in the volume of working capital (obviously not normally desired) or a recourse to borrowing at other banks. Strictly speaking, it is possible for such a borrower to repay the loan if he has an adequate excess of current assets over current liabilities and is willing to reduce to some extent the scale of his operations. One might, therefore, say that this loan is self-liquidating. But it differs from loans made to supply working funds needed to carry the borrower over a seasonal peak, since such loans can be repaid at maturity without embarrassment to the borrower.

Fixed capital loans. The self-liquidating loan, according to the traditional theory, provides the bank with the liquidity so necessary to meet the varying demands of depositors. On the other hand, advances of a fixed capital nature have no direct inherent liquidity. In making such loans, the bank must depend upon its ability to shift the burden to other banks. This involves: (1) the calling of loans on securities or the reduction of time loans on securities as they mature; or (2) the sale of securities owned outright by the bank.⁵ To what extent can the banker rely upon the "shiftability" of his security loans and investments to provide him with liquid funds? Is such a reliance safe? These are important questions which are raised by current banking practice. Another question which must be faced is the equally vital one of whether or not, disregarding the matter of liquidity, loans which

⁵ It should be remembered that real estate mortgages and direct advances to business for continuous working or fixed capital needs (when no annual cleanup is required) have practically no "shiftability" and are not self-liquidating.

are not self-liquidating give adequate protection against loss of principal and interest.

Shiftable vs. self-liquidating loans. A self-liquidating loan, as we have said, is one that will normally be repaid out of the receipts resulting from the use to which the funds are put. A loan that is not self-liquidating, on the other hand, gives rise to no chain of events which will naturally and normally return funds to the borrower within the life of the loan. This fact can best be illustrated by two examples. Suppose, first, that a person borrows a sum from a bank for thirty days to finance a transaction which cannot be completed within six months. The ability of the borrower to repay his loan in thirty days rests solely upon his ability to increase his income by some method unrelated to this transaction or to borrow elsewhere to replace the first loan. Let us take a second case. Suppose a person obtains a thirty-day loan at a bank for the purpose of buying securities. At the end of thirty days, the borrower's ability to repay rests upon: (1) his ability to borrow elsewhere; or (2) his ability to sell his securities to some other party who perhaps borrows elsewhere. Thus it is clear that the liquidity of loans that are not self-liquidating depends entirely upon the success with which the loan can be shifted to some other bank. The same reasoning naturally applies to the outright security holdings of banks. Those with a ready market can be easily sold to other banks or to borrowers at other banks.

To what extent are self-liquidating commercial loans similar to loans that acquire liquidity only through shiftability? In practice, some of the best forms of so-called self-liquidating paper acquire their liquidity through shiftability. This is true of that part of the commercial loans of the country which represents continuous working capital of the borrowers. Liquidity of open-market paper is often achieved (1) by the flotation of new issues; and (2) by the utilization of bank credit lines; and the annual "cleanup" demanded of commercial borrowers frequently involves a mere shifting of loans to other banks. To the extent that this is true, what seems to be self-liquidating paper turns out to be merely shiftable. The continuous operation of the borrower under the circumstances does not permit the liquidation of a sufficient amount of the firm's working capital actually to pay off the bank loans. It is estimated that bankers in large cities expect to

be called upon to renew between 40 and 50 per cent of their unsecured loans and are in fact willing to do so provided the condition of the borrower's business continues to be satisfactory. A survey made in 1942 revealed that 41 per cent of the total volume of loans made during one month was accounted for by renewals.⁶ The "annual liquidation" requirement often made by banks to "line of credit" borrowers is frequently cared for by borrowing elsewhere, either directly from another bank or indirectly through the commercial paper market.

What of the short-time loans to businessmen, which are actually self-liquidating? What is the source of their liquidity? Simply this: The borrower will have something to sell before the loan matures. In the ordinary course of business events, the goods can be sold and the loan repaid out of the proceeds. But what determines whether or not the goods can actually be sold? Assuming that they are staple goods, readily marketable, they can be sold at a reasonable price provided the normal buyers are able to obtain funds, loans let us say, in the ordinary manner to which they are accustomed. Stating it in another way, the self-liquidating character of a good commercial loan depends upon the continuation of the willingness of other banks to extend loans to the buyers of the goods produced by the original borrower. All of this is, of course, a matter of shiftability again. Are we to conclude, therefore, that there is no essential difference in the liquidity of a self-liquidating loan and of one which is not? It is true that fundamentally both types of loans depend for their liquidity upon the continuation of the willingness of the banking system as a whole to maintain a given general level of loans. The essential difference between the two types of loans rests in the fact that the individuals on the buying end of transactions arising out of the two types of loans behave differently. The borrower in the case of a self-liquidating loan depends upon selling his goods in the market. Insofar as the goods are in steady demand, they can either be sold to middlemen who directly or indirectly utilize funds resulting from other bank loans, or be sold to consumers, who give up a portion of their income. The buyers may normally be depended upon to buy so long as the banking system operates in a normal fashion and the

⁶ Jacoby, N. H., and Saulnier, R. J., *Business Finance and Banking*, p. 48, National Bureau of Economic Research, 1947. Also cf. Moulton, H. G., "Commercial Banking and Capital Formation," *Journal of Political Economy*, 1918, p. 658.

demand for the particular thing offered for sale does not falter.

On the other hand, the borrower who uses his funds for the purchase of securities is able to repay his loan if the banking system continues to function normally in furnishing loanable funds and if the buyers of the securities care to buy at that particular moment.⁷ The appearance of buyers who are willing to buy at prices high enough to enable the borrower to repay his loan is much less certain than the appearance of buyers for the goods of the merchant or manufacturer. This seems to be the core of the difference between the two types of loans. The thing bought by the borrower of funds for working capital purposes is much more certain of finding an ultimate market than the thing bought by a person who makes a nonself-liquidating loan. The latter person is compelled to rely on the sale of long-term capital goods themselves, or their paper representatives, instead of goods more nearly in consumable form. The remoteness of the return on long-term capital, together with the hazards that attend its ownership, results in highly speculative and fluctuating market values. This, then, is the real reason why it is less desirable for a bank with fixed obligations in the form of deposits to acquire assets of the type which are not self-liquidating in character.

On the other hand, a loan that, on its face, appears to be self-liquidating may in fact turn out not to be so. This would be true, for instance, of a commercial loan used to finance the production of some article that had suddenly fallen into disfavor and had become unmarketable. It would also be true of commercial loans to producers of either luxuries or capital equipment at a time when a depression appears in business.

Liquidity of whole banking system. One thing should be clearly evident from the above discussion. Regardless of the nature of credit extended by commercial banks, it is entirely impossible to expect the whole banking system to possess any large degree of liquidity. Whether loans are self-liquidating or merely shiftable, in the final analysis the liquidity of any particular bank's assets depends basically upon the continued willingness of the other parts of the banking system to lend or invest freely. To some extent, of course, commercial banks may shift the burden of

⁷ This is true even if he does not intend to sell but wishes to borrow elsewhere on the same security. The fall in the market value reduces by that amount his ability to borrow elsewhere.

providing liquidity upon the central bank. But any wholesale attempt on the part of the banking system to liquidate its loans and investments must necessarily fail.

Objection to fixed capital loans based on securities and real estate. The case for and against fixed capital loans by banks should be judged by two separate standards—liquidity and solvency. Since liquidity really involves ability to realize without loss on the assets involved, capital loans are liquid only when of short maturity and adequately margined by salable securities. In such a case, shiftability should be sufficient to insure liquidity. For example, a loan secured by stocks and bonds must necessarily have enough margin or excess of collateral to insure the bank that changing market values due to the ebb and flow of speculative fever will not endanger the ability of the bank to realize enough on the sale of collateral to cancel the loan. It is unnecessary that the bank be more concerned about the “freezing” effect of a general tie-up of banking operations on collateral loans than on self-liquidating commercial loans. Both types become highly unliquid in case of a general collapse of normal banking functions.

On the other hand, long- or short-term loans based on real estate tend to be highly unliquid, since their shiftability is limited. Another type of capital loan, referred to earlier as the *term loan*, is essentially unliquid, for the borrower cannot be expected to repay quickly and therefore there is no shiftability except, along with other assets, to the Federal Reserve Bank as collateral for a loan.

So far as solvency and soundness is concerned, there is no good reason why the fixed capital loan cannot be entirely satisfactory. Loans on securities with adequate margins can easily satisfy this requirement, for the loan can be realized on regardless of the credit standing of the borrower. Term loans, too, can be made secure by the use of collateral and careful risk selection. Likewise loans on real estate, properly made, have been proved satisfactory in this respect, even weathering severe depression periods.

Security loans and bank management. How, one may inquire, does the making of security loans affect the nature of bank management? First, it requires the banker to become a skillful analyst of the security market in order that the adequacy of margins on loans can be properly determined. Further, it requires skillful analysis of investment values and care in the administration of the investment accounts, as well as expertness in measuring trends in

the field of real estate values. Second, it tends to change somewhat the relation of the banker to industry. The banker as a middleman exercises a directive function through his ability to grant and withhold loans to particular individuals and industries. Insofar as the banker's function becomes one of a mere analyst of the stock and bond markets, his control over the distribution of capital in industrial uses becomes more remote. His judgment is influenced not only by the prospects of the underlying basic industries behind the securities, but also by the speculative temper of the market. Thus, if adequate margin is offered, he will hardly refuse to lend on securities of corporations to which he might be unwilling to make any direct loans. This in particular seems to be one of the serious evils of the growth of security loans at the expense of short-time credit. By lending on securities in a rising market, the banks have enabled industry to finance itself without direct contact with the bank. Further, by making easy the increase of long-time capital funds through the stock-market, the banks contribute heavily to the maladjustments that characterize periods of boom.

Bank investments as shiftable assets. Bank investments acquire whatever liquidity they possess by virtue of shiftability. This is true whether they consist of short-term Treasury obligations that may be readily sold or allowed to run off at maturity without replacement, or the longer-term bonds. Long-term high-grade securities, the market value of which changes with changes in interest rates, may be liquidated without loss by shifting so long as interest rates do not rise. But any wholesale shifting of such security holdings by banks seeking liquidity would certainly entail losses. Good investment policy requires, therefore, that the bank be prepared to hold such securities to maturity if necessary, and look to other paper for liquidity.

BANK CREDIT AND PRIVATE ENTERPRISE

Commercial banks have always played a vital role in financing business enterprise. Traditionally this consisted of relatively short-term loans to finance current requirements. During booms in the stock market, however, banks provided sizable amounts of long-term capital through security loans. The outstanding example of this occurred during 1928-1929.

The depression years of the 1930's brought a great decline in business loans of banks. At the same time, indirect loans to busi-

ness by way of the stock market fell sharply. Banks, therefore, sought to replenish their waning supply of earning assets by investing in bonds. Because issues of the U.S. Treasury and of state, county, and municipal governments offered the best security, it was these securities that banks purchased. At the same time, holdings of bonds issued by business firms were reduced. During World War II, however, the shift to bonds in the commercial bank portfolios was of even greater proportions. By the end of the war over three-fourths of the commercial bank earning assets were in investment form and were mainly U.S. Government obligations. This overwhelming place of government securities in bank portfolios has raised questions in respect to the future role of commercial banks in financing private business.

Threats to private enterprise financing. Several reasons can be given for questioning the adequacy of the future loan activity of the banks. First, the wartime expansion of bank credit through the purchase of government securities exhausted the excess reserves available to banks before the war. This condition, however, need not be of much consequence in view of the fact that bank holdings of short-term Treasury issues provide them with ready access to additional reserves through the Federal Reserve Banks.

Second, during the war, many business firms acquired necessary funds through government guaranteed loans. Others were the indirect beneficiaries of funds created by Treasury borrowing. The question arises, therefore, as to the willingness of banks to return to making unguaranteed loans in sufficient volume to meet the needs of business. This possibility has led to proposals for some form of guarantee of bank loans.⁸ Should banks show too much reluctance in making business loans involving risk, government loan agencies may be created to fill the gap. The banks might then find themselves more and more relegated to the position of mere holders of government debt, whereas loan decisions determining the fate of private enterprise are taken over by government bodies.

⁸ Cf. Eccles, Marriner S., "Federal Reserve Guarantee of Business Loans Made by Chartered Banks," *Federal Reserve Bulletin*, May 1947. Mr. Eccles, Chairman of the Board of Governors of the Federal Reserve System, supported a proposed amendment to the Federal Reserve Act to repeal the authority of the Federal Reserve Banks to make direct loans to industry and substitute instead authority to guarantee loans made by banks to business.

Third, the owners' equity in commercial banks was becoming dangerously thin in the 1930's. The situation was made worse by enormous credit expansion based on government obligations, which took place during the war. In spite of substantial increases in bank capital accounts, which resulted from retention of earnings, the capital-deposit ratio of insured commercial banks stood at 7.6 per cent at the end of 1949. Such a thin capital-deposit ratio may have two results unfavorable to an expansion of business lending. First, a thin equity ratio tends strongly to make bank supervisory authorities adopt highly conservative standards. With stockholders providing less than 7 per cent of the funds of banks, the margin of protection against risks is extremely low. Therefore the influence of bank supervisors, primarily interested in bank solvency, must necessarily be on the side of avoidance of risk. Loans involving substantial risk elements will be criticized as unsuitable. Thus the banker tends to seek riskless outlets for his loan funds, an attitude entirely out of harmony with a goal of financing the operations of private business. Second, the very thin capital-deposit ratio of banks has enabled them to make high earnings on invested capital while carrying mainly low-yield riskless investments. For example, members of the Federal Reserve System made earnings, after taxes, that were 11 per cent of their invested capital in 1945, 9.6 per cent in 1946, 7.9 per cent in 1947, and 7.2 per cent in 1948. Such high earnings may reduce the incentive for seeking business loans that would give a higher yield.

How encourage banks to expand business loans? Assuming that banks may show a reluctance to assume risks of business loans, are there any measures that could be taken to overcome this reluctance? First, an improved capital-deposit ratio seems to be a basic requirement. Legal requirements might well be established to bring this about. Such minimum requirements would serve the double purpose of compelling bank managers to seek higher earnings by lending to business and at the same time prevent an increased absorption of government debt, which is so fervently to be desired.⁹ This action would doubtless meet with some opposition from those whose primary interest is the immediate cost of carrying the government debt, but any increased cost arising from driv-

⁹ Cf. Ellis, Howard S., "Central and Commercial Banking in Postwar Finance," *Economic Reconstruction*, edited by Seymour Harris, McGraw-Hill Book Co., 1945, p. 250.

ing the debt from the banks into private hands would be cheap in view of the benefits to be derived.

A second approach is that suggested by Professor J. Franklin Ebersole.¹⁰ On the basic assumption that loans to facilitate production necessarily involve risks to the lender, he proposes that banks be required to establish special reserve accounts for the exclusive purpose of absorbing losses arising from those risks. Such a reserve for loan losses would be established by withholding earnings. To compensate the bank, income devoted to creating such reserve accounts might be freed from income taxes and the accumulated fund might be exempt from state and local taxation. In this manner a fund to absorb business loan losses would be established to supplement the thin capital-deposit ratio. No charges could be made to this reserve account except losses suffered on loans. Any recoveries on past charge-offs would be credited to the account. To compensate for the government subsidy arising out of income-tax exemption, on liquidation of the bank any residue of such account should go to the Federal Treasury. It is Professor Ebersole's belief that such a plan would help bring about a shift away from "atomistic" criticism of bank loans by examiners and the development of a broader view of the whole loan portfolio. The creation of such reserves would encourage the making of promising though doubtful loans bearing interest charges commensurate with the risk.

Third, the assumption of risks by banks might be encouraged by a carefully guarded loan guarantee system such as that advocated by Chairman Eccles. Especially might this meet the needs of smaller firms for long-term funds. The plan embodied in the proposed amendment to the Federal Reserve Act would authorize the Federal Reserve Banks to agree to guarantee varying fractions of loans made by banks for a fee commensurate with the risks involved. Loans guaranteed would be originated by the local bank. Fees for guaranteeing loans would be adjusted to cover the probable losses. Banks, by being able to insure against part of the risk by the payment of a given fee, would be better able to assume risks than in the absence of insurance.

Fourth, a reduction in the size of the short-term government debt, coupled with limitations on the holdings of long-term gov-

¹⁰ "Government Can Help Banks Make More Jobs," *Harvard Business Review*, Winter 1944.

ernment securities by banks, would encourage banks to seek business outlets for the lending power so released.

The expansion of loans to business after the war. The postwar experience has indicated that the banks stand ready to make loans to business in large amounts when the need appears. During 1946 business loans of insured commercial banks increased by over \$4.5 billion, or by 48 per cent. During 1947 the expansion was more moderate yet even so they rose by 27 per cent. During 1948, however, the gain was only 4 per cent and business loans declined substantially during 1949 because of the recession in business activity. In spite of the rapid expansion of postwar lending it is not entirely clear that the banks are, as a whole, prepared to take an active part in the financing of business when substantial risks exist. Although in November 1946, 45 per cent of the outstanding loans made by member banks bore a rate of interest of 6 per cent or over, such loans were only 13 per cent of the dollar value of all loans to business. In contrast, over one-half of the dollar value of business loans were at rates of interest of less than 3 per cent, and one-third were made at rates of less than 2 per cent.¹¹ When one remembers that small loans must bear higher administrative costs and are to a large extent being made to borrowers unable to benefit from effective interbank competition, the 6 per cent, or higher, interest charges on the small fraction of business loans in 1946 can hardly be taken to indicate any very active participation of banks in business loans involving the sort of risks inherent in accommodating the needs of small business.

Questions for Study

1. Why is adequate liquidity a first requirement in arranging a bank's portfolio? Why does the banker, nevertheless, wish to avoid excessive and unnecessary liquidity?
2. What is meant by a bank's *secondary reserve*?
3. What is the point of Garlock's example about the two country banks?
4. What is Hartzel's rule for calculating the required size of a bank's secondary reserves? Why does he take *local* loans into consideration?

¹¹ "The Structure of Interest Rates on Business Loans at Member Banks," *Federal Reserve Bulletin*, July 1947.

5. Why are long-term high-grade bonds inappropriate for use as secondary reserve?
6. What merits can you name for each of the following forms of secondary reserve: a) Treasury bills, certificates and notes, b) call loans, c) open-market commercial paper, d) bankers' acceptances?
7. Why does paper eligible for rediscount not fit the requirements for secondary reserves?
8. What, in fact, is the main dependence of banks for liquidity today?
9. What is a self-liquidating loan? A shiftable loan?
10. Are the following self-liquidating, shiftable, or neither?
 - a) Three-month loans to business to purchase seasonal inventory.
 - b) Call loans on the stock exchange.
 - c) Three-month loans to a business having a satisfactory current ratio but which, because of lack of seasonal changes, tends to borrow continuously.
 - d) U.S. Treasury 90 day bills.
 - e) High-grade corporate bonds.
 - f) Term loans to business for 5 years.
 - g) A 5-year real-estate loan.
11. What differences and what points of similarity exist between the liquidity characteristics of shiftable and self-liquidating bank assets?
12. Bank assets based upon fixed capital advances include both loans on securities and the ownership of securities. Which form do you think preferable from the standpoint of liquidity and solvency?
13. Why is it said that the banking system *as a whole* cannot achieve a high degree of liquidity?
14. What reasons may exist for fearing that the preponderant place of the government debt in bank portfolios may endanger the willingness of banks to make business loans involving risk?
15. What do you think of the proposals for a) Federal Reserve Bank guarantee of bank loans to business b) special reserves to handle losses arising out of risk loans to business?

Bankers' Acceptances

IN ADDITION TO MAKING LOANS AND INVESTMENTS, BANKS SOMETIMES assist in the process of credit extension by guaranteeing the credit of merchants through the use of bankers' acceptances. Bankers' acceptances, as we have already seen, are negotiable drafts drawn against a bank, payable at some future date and "accepted" by the drawee bank on presentment. This acceptance has the effect of binding the acceptor to pay the draft when due. When the accepting bank is well known and of good credit standing in the community, its acceptance is considered prime paper and is much sought after by banks for use as secondary reserve and by other institutions desiring a highly liquid and sound investment.

The use of bankers' acceptances. An acceptance of a well-known bank can be discounted in the money market at a low rate of interest. The owner of a banker's acceptance, therefore, can convert it into cash on favorable terms. When a bank places its signature upon a bill drawn against it and thus "accepts" it, the effect is to bind the bank to pay the instrument at maturity. For this act the bank receives a commission of perhaps 1 or $1\frac{1}{2}$ per cent per annum.¹ The commission must be sufficient to compensate the bank for its trouble and risk, and yield a modest profit. But it need not include any interest charge since the acceptance does not involve a loan. The loan funds derived from the acceptance come

¹The commission charged by American banks for accepting drafts involving prime risks probably averaged about 1 per cent per annum on 90-day acceptances during the period 1930-1932. The trend is now toward somewhat higher rates with banks charging a minimum of $1\frac{1}{2}$ per cent per annum for accepting drafts involving the best risks. When greater risks are involved the commission charged for accepting is often substantially higher.

from the bank or other investor, which purchases or discounts the acceptance.

REASONS FOR THE USE OF BANKERS' ACCEPTANCES

The American banker's acceptance is utilized for a variety of purposes. These purposes include: (1) to finance American imports; (2) to finance American exports; (3) to finance trade between foreign countries; (4) to finance the storage of goods in foreign countries; (5) to finance the domestic storage and shipment of goods; and (6) to create "dollar exchange" or enable certain foreign banks to obtain dollars for commercial purposes. They will be examined briefly in turn.

Acceptances for financing American imports. Acceptances arising from imports originate in the request of an importer to his bank for a letter of credit. This letter, sent to the exporter in the foreign country, authorizes him to draw a draft on the bank, payable at such future time as is called for by the terms of sale. Under such an acceptance, the issuing bank agrees to accept and pay the draft if properly drawn and accompanied by the bill of lading and other shipping documents showing that the goods have been shipped. When the foreign exporter draws a draft under the letter of credit, he either discounts it at his bank or delivers it to his bank for collection. In either event, the draft is forwarded to an American correspondent of the foreign bank for presentment and acceptance. The draft may then be discounted in the American money market or held until maturity for the benefit of the exporter or his bank. The American accepting bank is thus lending its name to assist the American importer to purchase foreign goods on favorable credit terms. The importer may obtain the documents and possession of the goods either upon his own reputation or upon delivery to the bank of a trust receipt or other satisfactory security.

Acceptances for financing American exports. Acceptances arising from exports resemble those arising from imports except that the request for the letter of credit comes from the foreign buyer through his bank. The American exporter is thus permitted to draw a draft on the American bank issuing the letter of credit, to have the draft accepted, and to discount it in the money market. In this way the accepting bank is assisting the foreign buyer to purchase goods on favorable credit terms.

Acceptances to finance trade between foreign countries. Acceptances for financing the storage of goods in or the shipment of goods between foreign countries have the result of giving foreign businessmen access to the favorable rates of the American money market. Thus, for example, an Englishman wishing to sell goods on credit to a South American buyer might request that the South American arrange, through his bank, for the issuance of a letter of credit by a New York bank. If this is done, the English exporter ships the goods, draws a draft on the New York bank under the letter of credit, and discounts it with his bank. The English bank forwards the draft to the drawee bank for acceptance, sells it in New York, and transfers the proceeds back to England through the foreign exchange market. The American accepting bank is thus enabling the South American importer to obtain credit in New York for his purchases.

Acceptances to create dollar exchange. The use of acceptances for creating dollar exchange involves the drawing of time drafts by foreign banks on their American correspondents, which accept the same and have them discounted in the local money market. The proceeds are then credited to the account of the foreign bank in order to provide it with balances against which to draw dollar drafts for the benefit of customers who find it necessary to remit dollars in payment of debts to Americans.

The regulations governing such acceptances provide for their use only when the "usages of trade" appear to justify it. To insure against the acceptance of loan bills drawn to profit from exchange rate fluctuations or interest rate differentials, the aggregate acceptances that can be made for any one foreign bank are limited to an amount that the foreign bank can be expected to liquidate at maturity out of funds derived from export bills and other normal trade sources.²

Domestic borrowing through acceptance credit. The law permits the use of bankers' acceptances to finance both the shipment and the storage of domestic goods. Acceptances to finance goods in storage must be based upon "readily marketable staples" and must be secured at the time of acceptance by warehouse receipts or other documents of title. In order that such acceptances shall be eligible for purchase by the Federal Reserve Banks they must remain secured until maturity.

² Regulation C, Board of Governors of the Federal Reserve System, August 31, 1916.

A person or firm having such readily marketable staples in storage may arrange with an accepting bank to accept a time draft drawn against it, secured by documents of title representing the stored goods. The documents may be held or released by the accepting bank and the drawer of the accepted draft discounts it in the acceptance market.

The accepting bank earns its commission for accepting the bill, and the businessman borrower obtains his funds at the relatively low rate of discount commanded by a good banker's acceptance. The advantage of borrowing by the use of a banker's acceptance lies in the possibility of getting funds more cheaply than by paying the ordinary customers' rate at the borrower's own bank. For example, in June 1934, the discount rate on 90-day prime bankers' acceptances varied from one-eighth to one-quarter of 1 per cent per annum. A New York borrower, able to qualify for acceptance credit, could pay an acceptance commission of 1 per cent per annum, give the customary profit to the acceptance dealer who purchased his bill, and still get his funds at a cost of less than one-half of the 3.3 per cent customers' rate that New York bankers were charging at that time.³

The decline in customers' rates charged by banks, which accompanied the "easy money" policy of the late 1930's and the 1940's, greatly reduced the differential advantage of using acceptance credit. Furthermore, the discount rate on bankers' acceptances rose to a more normal figure following the posting of a higher buying rate by the Federal Reserve Banks. In September 1948, the rate on 90-day prime bankers' acceptances was 1.19 per cent. When an acceptance commission of $1\frac{1}{2}$ per cent was added, the combined cost of obtaining funds by acceptance credit amounted to 2.69 per cent. At that time the average customers' rate charged by banks in 19 principal cities was 2.21 per cent. Consequently acceptance credit was being used but little to finance domestic transactions.

This roundabout extension of credit by the accepting bank creates on the liability side of the statement the item "acceptances outstanding." Since the offsetting protection for the liability con-

³ For a good discussion of the advantages of using bankers' acceptances to finance the domestic storage of goods, see Burgess, W. Randolph, *The Reserve Banks and the Money Market*, 1936, Chapter X.

sists solely of "customers' liability," it follows that the extension of acceptance credit involves just as careful scrutiny of the ability of the borrower to repay as does a straight loan. To prevent the abuse of such credits by American banks, the Federal Reserve Act carefully limits and regulates the acceptance powers of member banks.

Regulations governing acceptances. The regulations governing the acceptance of drafts by member banks fall under four main heads.⁴

1. *Maturity.* The length of time for which such drafts may run is limited to six months' sight exclusive of days of grace.

2. *Volume.* Member banks (including state members authorized by law or charter)⁵ may accept drafts to an amount aggregating not over 50 per cent of their capital and surplus.

The Board of Governors will entertain applications from banks having a surplus account of at least 20 per cent of their capital for power to accept drafts to an aggregate amount of not over 100 per cent of their capital and surplus. The application will be approved if the Board is satisfied with the standing of the bank and is convinced that banking and business conditions warrant it. But the aggregate amount of acceptances growing out of domestic transactions cannot exceed 50 per cent of the bank's capital and surplus.

Also, on approval of the Board, member banks may accept drafts drawn by banks in foreign countries for the purpose of furnishing dollar exchange. Such drafts may have not more than three months' sight to run, exclusive of days of grace. The aggregate amount of such drafts shall not exceed 50 per cent of the bank's capital and surplus. This limit is separate and distinct from the limits placed upon other types of acceptances.

3. *Purposes.* Bankers' acceptances may be created by member banks in order to finance the import and export of goods; to finance the domestic storage and shipment of goods; to finance the

⁴ Federal Reserve Board, *Regulation C*. Before the passage of the Federal Reserve Act in 1913, national banks were not permitted to accept drafts. State and private banks exercised the function to a limited extent, however, before this time.

⁵ For a digest of state laws on the acceptance powers of state banks, see *Hearings, Subcommittee of Committee on Banking and Currency, United States Senate, 71st Cong., 3rd sess., S. Res. 71, Appendix, Part 6.*

storage of goods in and the shipment of goods between foreign countries; and to create dollar exchange.⁶

4. *Security.* Acceptances arising out of financing the shipment of goods in foreign commerce need have no specific collateral unless the amount of acceptances made for any one firm or person is over 10 per cent of the accepting bank's capital and surplus. Any excess, however, must be secured during the life of the acceptances by attached documents or some other actual security growing out of the same transaction.

Acceptances arising from domestic shipment of goods must be accompanied by shipping documents of title at the time of acceptance. This requirement arises from the desire to insure that the transaction financed is a self-liquidating one. After acceptance, the documents may be released unless the acceptances for any one person or firm exceed 10 per cent of the accepting bank's capital and surplus. In this case, the excess requires collateral security.

In order to indicate their self-liquidating character, acceptances arising from the storage of goods either *at home or abroad* require security at the time of acceptance in the form of warehouse receipts or other documents of title covering readily marketable staples which await reasonably prompt sale or consumption in the orderly process of trade or manufacture. Again the law does not require that the accepting bank retain the collateral security except against the excess above 10 per cent of its capital and surplus. But if the acceptance is to be eligible for rediscount or purchase by the Federal Reserve Banks, it must remain secured throughout its life.

Acceptances giving rise to dollar exchange in excess of 10 per cent of the accepting bank's capital and surplus must be protected at the time of acceptance by documents of title or other adequate security.

Accepting banks. At the beginning of their experience with acceptance credits, many banks without adequate knowledge or equipment for acceptance credit work undertook to accept drafts.

⁶ The original provisions of the Federal Reserve Act limited the use of acceptance powers of member banks to the financing of imports and exports. Later it was amended to include the power to accept drafts growing out of domestic shipment of goods or based upon documents of title covering readily marketable staples. By rulings of the Federal Reserve Board, this power has been construed to apply to goods in storage in foreign countries and the shipment of goods between foreign countries.

Such banks were not in close touch with the principal discount markets, with the result that their accepted bills did not command the best rate. This fact in turn reduced the advantage of using their facilities, so that the number of accepting banks gradually declined from about 500 in 1918-1921 to about 164 in 1930. These banks were made up of 87 national, 48 state, 10 private, 6 foreign, and 13 American agencies of foreign banks.⁷

Importance of bankers' acceptances. Before 1929 the total import and export acceptances of American banks amounted to about 50 per cent of the value of our foreign trade. In 1929 and 1930 the low rates in the American money market were responsible for the fact that American acceptances financed 70 per cent of our foreign trade. The greatest gain in any one class of acceptances was in those arising out of the storage of goods in and shipments between foreign countries, which amounted to only \$8,000,000 in April 1925, but rose to \$560,000,000 in December 1930.⁸ Since 1930 the volume of bankers' acceptances has gradually declined. At the end of 1949, the total volume of bankers' acceptances outstanding amounted to only \$272,000,000. Of this amount the accepting banks held \$128,000,000, and other investors held but \$144,000,000. About one-half of the acceptances held by the accepting banks were their own bills, which had been discounted for the convenience of the person presenting them for acceptance. Such bills constitute temporary loans until the acceptance is sold in the acceptance market. At this time the Federal Reserve Banks were holding no bankers' acceptances. The distribution of the origins of the acceptances was as follows:

Based on U.S. imports	\$184,000,000
Based on U.S. exports	49,000,000
Dollar exchange	1,000,000
Based on goods stored in the U.S.	30,000,000
Based on goods stored abroad	9,000,000

The modest amount of import and export acceptances in the face of the heavy foreign trade of the year 1949 reflects the great importance of intergovernmental credits in postwar foreign trade and the modest place of private credit.

⁷ American Acceptance Council, *Facts and Figures Relating to the American Money Market*, 1931, pp. 7-8.

⁸ American Acceptance Council, *Facts and Figures Relating to the American Money Market*, 1931, pp. 13-14.

Questions for Study

1. Why do bankers' acceptances command a low rate of discount?
2. Why are banks willing to accept drafts drawn against them? Who provides the money when credit is extended by the use of acceptances?
3. Can you explain the process by which acceptances of American banks can be used to a) finance American import? b) finance an American export?
4. Do you understand why, in the 1925-1930 period, there was such a great expansion of American bankers' acceptances in financing trade between and storage of goods in foreign countries?
5. What is meant by acceptances to create dollar exchange?
6. Can you explain why domestic borrowers sometimes found it of advantage to use domestic acceptance credit rather than to borrow directly from their own banks? Why has this advantage largely disappeared?
7. How explain the low level of bankers' acceptances since the war?

Part IV

Banking Systems

U. S. Banking Before 1913

A HISTORICAL SURVEY OF BANKING DEVELOPMENTS CAN BE JUSTIFIED here only as a means of illuminating current banking problems and practices. Ideally, perhaps, current questions should be treated as they arise by reference to their historical antecedents. But the need to avoid excessive repetition limits the extent of such a procedure. It may be helpful, therefore, to sketch briefly some of the outstanding events and developments in our banking history.

BANKING BEFORE THE CIVIL WAR

Early America, like all new and vigorous countries with many resources to exploit, was capital hungry. Savings accumulated all too slowly. Specie was scarce, as were money lenders, so quite naturally there existed a demand for banks, for bank note expansion provided an effective way to get trade capital and natural resources into the hands of enterprisers.

Land banking vs. commercial banking. Even in the days before charters were issued to banking corporations, a division between land banking and commercial banking appeared among the private banks. As early as 1741 a land bank was organized in Boston, which issued circulating notes against land and mortgages. These notes were payable, without interest, after twenty years. The bank, highly popular with the general public but violently opposed by the conservative elements of the community, was outlawed by act of Parliament the following year.

In 1733 and again in 1740, groups of merchants and traders of Boston organized private banks to discount short-term commercial notes and issue private bills of credit. These bills acquired a

popularity and value much greater than that of the Colonial bills, for they were paid off punctually in specie. These private merchant bankers were the forerunners of the commercial banks of later times.

One of the most sought after and readily available types of property in early America was land. Speculators, eager to buy government land, clamored for banks to provide the money. It was quite natural that banks were chartered for this purpose and that the loans made by such banks were tinged with personal favoritism and politics, and characterized in many cases by a gross absence of security. In addition, state governments sometimes organized banks to finance such internal improvement ventures as turnpikes, canals, railroads, and bridges. These various note-issuing banks were especially vulnerable to collapse and failure, both because of the open-handed and reckless manner in which many were operated and because of the inherent instability of land values, which comprised the basic security for their loans. Moreover, the excessive quantities of cheap money created by these banks periodically supported speculative booms, which later collapsed.

In contrast to the banks that issued notes against land were those which confined their activities to making short-term loans to commercial houses. The currency issued by the latter type of banks proved much more sound and the banks themselves were able, in the long run, to command public confidence. It was this fact which helped to establish the rule, accepted among banking theorists if not by the general public, that note-issuing and deposit-creating banks should avoid loans on land and other fixed properties and confine their lending to merchants and other businessmen for short-term purposes. In spite of the attractions of sound commercial banking, agricultural interests, with their needs for long-term credit on reasonable terms, have never believed that it adequately meets their requirements. Consequently, we find that rural banks have frequently, and to their sorrow, become deeply involved in long-term agricultural credit based on land. In addition, the pressure for easy money and credit from agricultural areas has left its mark on our monetary and credit institutions.

Problem of incorporation. There was considerable dispute in the fifty years preceding the Civil War as to the propriety of confining banking privileges to incorporated banking firms. In general, banks of deposit were permitted to operate privately, but

banks with the right to issue notes were required to incorporate, although private banks frequently issued notes in spite of the efforts of the law and the incorporated banks to prevent them from doing so.

The first incorporated commercial bank appears to have been the Bank of North America, established in Philadelphia by Robert Morris in 1782. It financed the short-term needs of merchants and was soundly operated. By the year 1836, the number of banks organized under state charters had reached about seven hundred. Their note issues made up a large fraction of the total currency of the country.¹

The importance of note issue. Before the Civil War, bank notes furnished the major part of the nonspecie currency of the country. Outside the cities particularly this was the case. The use of checks drawn against demand deposits is feasible only when individuals using them have confidence in the credit standing and honesty of each other and when facilities are available to accomplish prompt presentment. Naturally, at a time when transportation and communication were but poorly developed, the use of engraved notes of banks payable to the bearer was superior in most cases to the use of checks. The relatively great importance of bank notes is well illustrated by the reported condition of 11 New York City and 11 country banks in 1829.²

	<i>Loans and Discounts</i>	<i>Capital</i>	<i>Notes</i>	<i>Deposits</i>	<i>Cash & Due from Banks</i>
City banks	\$16,702,467	\$11,252,160	\$3,528,623	\$4,448,088	\$2,970,978
Country banks . . .	6,185,520	2,906,413	3,137,510	1,042,865	1,127,124

It was not until after the Civil War that deposits became substantially larger than bank notes. This can readily be seen in Chart 9. It is not surprising, therefore, that the banking legislation of the times placed a good deal of emphasis upon regulation of the note-issuing powers.

Evils of bank note currency. The characteristic of bank notes that makes them adaptable to the economic circumstances of pioneer societies is also a source of weakness, as the experiences

¹ Board of Governors of the Federal Reserve System, *Banking Studies*, 1911, pp. 6, 8.

² Chaddock, Robert E., *The Safety Fund Banking System in New York State, 1829-1866*, N. M. C., 1910, pp. 239-240.

of the early banks indicate. Even in the absence of any effective means for presentment and redemption, bank notes could be issued and kept in circulation, since they bore the appearance of money itself. Redemption was made difficult by the fact that banks were deliberately set up in remote and inaccessible places, far from the

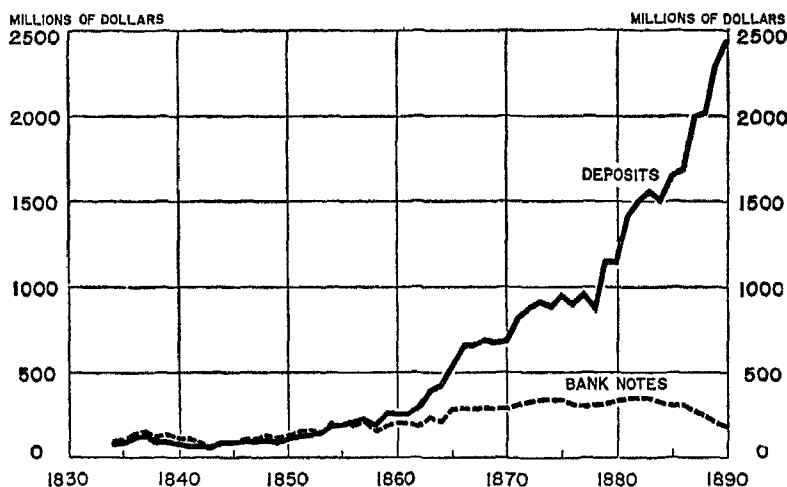


CHART 9. BANK NOTES AND DEPOSITS. Source: *Banking Studies*, p. 13, published by the Board of Governors of the Federal Reserve System.

centers of trade. The notes were then loaned by agents in other districts. In the West such banks earned the title of "wildcat banks," because of the penchant of their organizers to locate deep in the woods, out of reach of such disagreeable persons as brokers and agents of other banks who were bent upon presentment of bank notes for specie. Not only were bankers prone to set up their banks in inaccessible places, but they also put many obstacles in the way of payment to persistent collectors who actually discovered the den of the "wildcatter." A favorite practice was to pay out small change, a process making for prolonged periods of delay and embarrassing transportation problems. Moreover, public sentiment favored the bankers by condoning the ingenious practices developed to avoid redemption.³ This situation opened the way to abuses. A bank that was able to keep a large volume of its notes in circulation could expand its loans by this amount. Indeed, some bankers even exchanged bank notes for property.

³ Dewey, Davis R., *State Banking Before the Civil War*, N. M. C., 1910, p. 74.

Under such circumstances it was easy for banks to issue an excessive quantity of notes that could not be redeemed in specie if occasion demanded. The banker, lulled into repose by his success in avoiding redemption, often maintained an entirely inadequate specie reserve. Furthermore, there was a strong temptation to issue bank notes against purely speculative ventures, thus feeding the fires of speculative fevers and causing subsequent collapse and disaster.

The result of all this malpractice was widespread confusion and uncertainty in currency matters. Some bankers, through sound operations and prompt redemption, kept their notes circulating at par with specie. Others all too frequently failed to follow the example of the sound banks and found their currency accepted at varying discounts. The effects of these conditions on business affairs are well described in the following quotation from Whitney's *The Suffolk Bank*:⁴

The business man of today knows little by experience of the inconvenience and loss suffered by the merchant of sixty years ago arising from the currency in which debts were then paid. . . . The merchant of 1818, receiving payment in bank-notes, assorted them into two parcels, current and uncurrent. In the first he placed the notes issued by the solvent banks of his own city, in the other the bills of all other banks. Upon these latter there was a discount, varying in amount according to the location and the credit of the bank issuing them. How great the discount was he could learn only by consulting the "Bank Note Reporter," or by inquiring at the nearest exchange office; and he could avail himself of them only by selling them to a dealer in uncurrent money. He could neither deposit them nor use them in payment of his notes at a bank. The discount on them varied from one per cent upward, according to the distance the bills had to be sent for redemption and financial standing of the bank by which they were issued. Many banks were established in remote places mainly for the purpose of making a profit on circulation. The more distant they were from the business centers, the more expensive it was to send their bills home for redemption, and the more difficult it was for the general public to know their true financial condition. . . .

The situation was further disturbed by the fact that counterfeiting of bank notes became popular. The multitude of issues made the practice easy. The West and South, particularly, suf-

⁴ As quoted by Root, L. Carroll, in *Sound Currency*, June 1, 1895, p. 276.

ferred from the currency troubles. All merchants kept bank note reporters at hand in order to determine the value, if any, of currency presented in the course of trade. Not only were as many as 5,400 counterfeit notes catalogued in one bank note reporter, but also genuine notes were acceptable at varying discounts, depending upon the possibilities and costs of redemption.⁵

The Suffolk Bank. The multitude of currencies issued by the banks of the early 1800's was troublesome to bankers themselves as well as to businessmen. Particularly, the banks of Boston were troubled by the variable issues of the banks in the surrounding territory. Such currency, although acceptable at banks only at discounts determined by the time and trouble involved in presentment for payment at the issuing bank, circulated readily among merchants and others in the community. The notes issued by the banks of Boston were acceptable at par and consequently were held by persons wishing to pay debts to or make deposits in the Boston banks. This condition restricted the issue of notes by the banks of Boston and put them at a disadvantage in comparison with banks outside. In 1825, therefore, the Suffolk Bank instituted a "par collection system" for bank notes and abolished the discount on foreign bank notes.

The Suffolk Bank of Boston agreed to act as a collection agency for the other six banks of the city. It received notes on out-of-town banks, originally at a slight discount but later at par. In turn it made arrangements with the other New England banks to redeem their notes in Boston, provided such banks maintained a deposit of \$2,000 or more, free of interest, in addition to the amount required to redeem the notes. In return for this the banks maintaining deposits with the Suffolk Bank were allowed to deposit, at par, for credit on the day following their receipt, all notes of any New England bank of good standing. A bank that refused to join the system found its notes presented for collection at the bank itself in the same manner as the Federal Reserve Banks presented checks on nonpar banks during the "par collection controversy." The results were favorable. The majority of the banks found it expedient to co-operate. Within six months' time, the circulation of Massachusetts banks outside of Boston decreased \$382,371, and that of the Maine banks decreased \$336,819. The

⁵ White, Horace, *Money and Banking*, Boston, Ginn & Co., pp. 405-406.

circulation of the Boston banks, in the meantime, increased \$283,497. Thus New England came to possess a high-grade currency acceptable at par and subject to the check of continuous redemption.⁶

The First Bank of the United States. Even a brief discussion of early banking history of the United States cannot omit reference to the two banks of this period which were chartered by the Federal Government. The First Bank of the United States was established in 1791, with its main office in Philadelphia and branches in New York, Boston, Baltimore, Washington, Norfolk, Charleston, Savannah, and New Orleans. It issued a limited volume of bank notes, acted as fiscal agent for the government, and served to restrain excessive note issue of state banks, which were becoming numerous, by forcing them to redeem their notes in specie. This it could do by rejecting notes which were not convertible and by making such notes unacceptable by the Treasury, for which the Bank was fiscal agent. Unfortunately, upon the expiration of its charter in 1811, the friends of the Bank were unable to overcome the political opposition of those who feared the growth of money monopoly and the extension of the power of the central government. Much was made of the fact that British capitalists owned over two-thirds of its capital. This argument was particularly telling in view of the strained diplomatic relations then existing with England. The charter was not renewed, and the only uniform, sound bank note currency capable of wide circulation in the country at that time was lost, along with a powerful and effective aid to government financial operations. The country was left to face the financing of the War of 1812 with only the unreliable state-chartered banks to support it.

The number of state banks increased from 88 to 208 in the four years from 1811 to 1815, while their note issues increased from \$23,000,000 to \$110,000,000. In 1814 most of the banks outside New England suspended all pretense of redemption of notes in specie, and the currency system of the country was badly demoralized. It was the opinion of Secretary Gallatin that much of this could have been avoided had the First Bank of the United States continued to function.⁷ The suspension of specie payments by the state banks sadly embarrassed the government, which was

⁶ Root, L. Carroll, *Sound Currency*, June 1, 1895, pp. 277-279.

⁷ Hepburn, A. Barton, *A History of Currency in the United States*, 1915, p. 90.

unable to transfer what funds it possessed in the form of bank deposits from one district to another to meet varying needs.⁸

The Second Bank of the United States. The chaotic condition of the banking system led many to favor a new bank, similar to the First Bank of the United States, and on April 10, 1816, a bill was approved by President Madison granting a charter for the Second Bank of the United States. During its first two years the Bank was the victim of mismanagement, but beginning with 1819, under the new and conservative management of Mr. Langdon Cheves, it assumed its place as an effective, conservative bank and fiscal agent for the government. Through its branches it forced specie redemption upon the state banks. Bank notes deposited with it by customers or received from the Treasury as governmental revenues were presented for redemption. Banks that refused to redeem their notes found them rejected and not acceptable for payments to the Treasury.

The action of the Bank in exerting pressure upon state banks to maintain their notes at par provoked the hatred of banks of the West and South, which had been the worst offenders against sound banking. Depression brought distress to debtors, who were easily persuaded that the Second Bank of the United States was causing all their troubles by curbing the activities of the state banks. When the time of the expiration of the old charter arrived, the Bank was embroiled in a political quarrel with President Jackson, and a renewal of its charter by the Federal Government became impossible. The Bank therefore disposed of its branches, obtained a charter from the state of Pennsylvania in February, 1836, and for some time continued to operate. After difficulties in the panic of 1837 it finally closed in 1841.

The Safety Fund System of New York. Another early attempt to improve banking conditions took the form of a mutual guaranty fund out of which creditors of failed banks were to be paid. The state of New York adopted the "Safety Fund System" in 1829. Between that year and 1839 new charters were granted to 93 banks under the Safety Fund law. These banks were chartered by a special act of the legislature but were required to conform to the law as a prerequisite to obtaining a charter.

Each bank which obtained a charter was required to contribute annually to the fund $1\frac{1}{2}$ per cent of its paid-up capital until it had

⁸ White, Horace, *Money and Banking*, 1896, p. 272.

paid in an amount equal to 3 per cent of its capital. After the assets of failed banks had been liquidated, any deficiency owed to the banks' creditors was to be paid out of the fund. As the fund became depleted, further assessments of the same nature were to be made.

The Safety Fund System did not achieve all of the goals for which its founders hoped. Bank failures of 1841–1842 exhausted the Fund, and the State supplied the deficiency for which it was subsequently reimbursed. After 1842 the Fund was relieved of further obligation for payment of deposits of failed members and was therefore liable only for note issues. This reduction in liability of the Fund enabled it to meet additional losses on notes, and before its termination in 1866, to reimburse the State for previous advances.⁹

The free banking system. The state of New York inaugurated another plan, which was destined to color the banking practices of the United States, when it adopted the "free banking system" in 1838. This came as a reaction against the banking monopoly created by special chartered banks.

Free banking involved two principles. First, banking was to be made a "free trade," open to all without discrimination or favoritism. Second, banks were to issue notes only against the security of proper collateral sufficient to insure ultimate redemption. It was incumbent upon the state, therefore, to lay down the rules under which banks might be organized and notes issued.

At first, the free banking system worked badly in New York. The comptroller was authorized to issue circulating notes to any association organizing itself as a bank and depositing with him the obligations of the United States or any individual state, or real estate mortgage bonds. Twenty-nine free banks failed during the first five years, with resultant substantial losses to note-holders. These banks had an aggregate circulation of \$1,233,374, secured by stocks, bonds, and mortgages having a face value of \$1,555,338. On liquidation, however, they were sold for only \$953,371, which permitted payment of the bank notes at 74 cents on the dollar. To correct the evil of depreciation in the value of securities pledged for the protection of bank notes, amendments were made in the law to permit only the use of bonds of the

⁹ Chaddock, Robert E., *The Safety Fund Banking System in New York State, 1829–1866*, N. M. C. 1910, p. 336.

United States and the state of New York and qualified mortgages.¹⁰

The free banking system proved popular. Ohio adopted it in 1845, Illinois in 1851, Indiana in 1852, and Wisconsin in 1853. Free banks were for the most part primarily interested in the issuance of notes. Since the system was designed to insure the safety of bank note holders, it is not surprising that little, if any, provision was made for regulating banks except in regard to note issue. Because of the acceptance of low-grade securities as collateral for the notes, even protection for noteholders was not achieved. The outbreak of the Civil War found many of the free banks in Illinois owners of obligations of southern states which rapidly fell in value.

Evils of free banking. The system of free banking naturally led to many abuses. Principally, it facilitated the development of wildcat banking, as is well illustrated by the following quotation:¹¹

In practice it was hardly necessary for the bank to have a place of business if its notes were secured, and I remember that in some instances where attempts were made in Illinois to present notes for redemption at the bank's counter no counter was found, but merely a hired room in some place remote from any railway station and situated on some bottomless prairie road. As the country banks had a decided advantage over the city banks in the way of nest-hiding, the latter resorted first to the device of not paying out their own notes at all, but borrowing those of Eastern banks instead. Facilities for travel were too good, however, in the East. The notes paid out in Illinois and Wisconsin went home to be converted into New York and Boston funds too rapidly. So the city bankers went to the State of Georgia and started a lot of subordinate banks there, with whose notes they flooded the Northwest from Chicago as a radiating point. None of these currency mills actually failed, but the rate of exchange on New York was measured by the cost of sending the notes to their several Georgia houses for redemption, which cost was at that time considerable. The Western free banks for the most part went down in the crash of 1857, and again in that of 1861, and their securities being pressed on the market simultaneously sank to low figures, the notes falling even lower than the securities. Whatever may have been the design of the lawmakers (and there is no reason for doubting

¹⁰ *Annual Report of the Comptroller of the Currency*, 1876, pp. XXIII-XXIV.

¹¹ White Horace, "Wildcat Currency Experience," *Sound Currency*, December 1, 1894.

that it was good), it turned out to be a mere scheme to enable speculators to sell bonds to the public, and continue to draw the interest themselves. It was possible under these laws for a man to borrow, say, \$100,000 of State bonds, deposit them with the auditor, receive from him circulating notes, buy wheat with these notes, send the wheat to New York, and sell it for money with which to buy more bonds to deposit with the auditor; and so round and round. This was actually done in some cases, and it was considered an effective way of procuring an adequate supply of money.

Examples of good banking during period. The period was not without its examples of good banking, even in that part of the country noted for wildcatting. Both South Carolina and Indiana operated state-owned banks with singular success. Each bank had the right of note issue without any collateral requirement; each operated branches; and each was blessed with sound management. The Bank of the State of South Carolina was founded in 1812 and was finally liquidated in 1870 after many years of useful existence. The State Bank of Indiana was established in 1834 and operated as a state-owned institution for 25 years, when its business was absorbed by a newly organized but privately owned bank of the same name, which operated successfully until 1866, when the tax on state bank note issues caused it to liquidate.¹² There were also privately owned banks that stood out in bold relief against the general mass of low-grade banking of the times. One of these was the State Bank of Ohio, which maintained 36 branches and was a model of excellence.¹³ Also, the requirements of the Louisiana banking law of 1842 were models of good commercial banking practice. Banks operating under it successfully weathered the crisis of 1857 that took a heavy toll among weaker banks.¹⁴

Conclusion. This short survey of early banking events and developments shows vividly the defects of the currency and banking facilities of the times. It also shows some of the steps taken to meet the difficulties which arose. These events and actions, in many cases, left a definite imprint upon our banking development. Many of the later laws and practices have been designed to avoid the mistakes of the past. Some of the early events and the effects

¹² Davis, Andrew M., *The Origin of the National Banking System*, N.M.C., 1910, pp. 374-386.

¹³ *Ibid.*, pp. 386-387.

¹⁴ Board of Governors of the Federal Reserve System, *Banking Studies*, 1941, p. 11.

they had on later banking laws and practices are enumerated below.

First, in contrast to the successful operation of banks engaged in financing commerce and industry the land banks had an unhappy experience, which left its mark on later banking history. It was no accident that national banks were originally prohibited to lend on real estate. This prohibition, it will be remembered, remained until 1913.

Second, the Safety Fund System indicated the possibility of some form of mutual insurance of bank liabilities. Out of its experience came the conviction that assessments should be based upon the volume of a bank's insured liabilities rather than upon its capital stock. Furthermore, an innovation was introduced by constitutional amendment of the State of New York, to the effect that holders of bank notes should be preferred over bank depositors and other bank creditors. This was accomplished by giving noteholders a prior lien in case of liquidation of the bank. This favoritism to noteholders has continued down to the present day. It was true of the national banking system when national bank notes were being issued, and it is still true of Federal Reserve note issues. The reasons generally given for granting preference to note-holding creditors over deposit-owning creditors of banks are: (1) Bank note holders are involuntary creditors, since they receive bank notes of all kinds in the ordinary course of trade, with little opportunity to reject the unsound notes. Depositors, on the other hand, may choose their bank. (2) Noteholders are usually working people, of the poorer classes, who are less able to bear losses due to bank failures than the more well-to-do classes who carry bank deposits.

Third, it was a common practice among early banks to operate without what would now be called "sound capital." Laws governing incorporated banks were notoriously loose in this respect. Although nominal capital was normally high, wide latitude existed in respect to amounts to be actually paid in. Frequently but a small amount of specie was contributed by stockholders, for it was considered entirely proper that stockholders should give their promissory notes in payment of their stock subscriptions. It was confidently expected that profits realized from the bank's operation would enable stockholders to retire their notes shortly. Equally dangerous was the common practice of allowing stock-

holders to borrow on the pledge of their bank stock. The proceeds of loans of this kind might be used either to complete installments due on the stock subscription, or for business ventures. It is evident that such a capital structure was inadequate to give proper support to the bank liabilities when difficulties arose. The lessons learned in the early period were applied to national banks and to the modern state banks. Quite uniformly laws governing the organization of banks now require cash payment of stock subscriptions. They also prohibit banks from making loans on the security of their own stock.

Fourth, the free banking experience left its indelible mark on the banking system of the times. Commercial banking is now uniformly "free" in the sense that banks are incorporated under the general banking laws without special legislative grants of charters. Furthermore, bank note issue became uniformly based upon the free banking principle of deposit of collateral security with some public authority. In addition, a lesson was learned in respect to the quality of collateral used. With the inauguration of the national banking system, national bank notes were issued only against the deposit of U.S. bonds with the Treasury of the United States. Today, Federal Reserve notes are based upon special collateral deposited with a representative of the Board of Governors of the Federal Reserve System.

Fifth, the early banking developments indicated clearly the necessity of some method of requiring banks to redeem their notes. Only when effective redemption facilities are available will sound currency and a sound banking system be possible. The Suffolk Bank System indicated this fact clearly, and the need for redemption of notes was anticipated in the laws governing national banks.

Finally, an outstanding difficulty that arose among early banks was the inadequacy of specie or lawful money reserves. To a considerable extent this inadequacy arose from lack of adequate means of presenting notes for redemption. Success in avoiding redemption led many banks to pay little heed to the need for cash reserve. As a result, there was little limit to the amount of notes that banks could issue and lend save the statutory limit commonly set at an amount equal to the bank's capital. But such capital, as already noted, failed generally to bring in much specie and frequently was largely fictional. With the creation of the national banking system this difficulty of inadequate cash reserves was rigorously at-

tacked. Reserve requirements were set by law for banks of various classes. Originally these requirements applied to both note issues and deposit liabilities. Some early state banks also were required to carry definite amounts of cash reserves. New York at first required the free banks to carry $12\frac{1}{2}$ per cent reserves against outstanding notes. This requirement was removed in 1844. Beginning in 1842, Louisiana banks were required to carry reserves equal to one-third of their combined note and deposit liabilities, whereas the remainder of their notes and deposits might be represented only by short-term notes of not over three months. By 1858, Massachusetts adopted a reserve requirement of 15 per cent against bank notes and deposits. Gradually the practice of requiring reserves against liabilities increased until all state banks as well as national banks now have such requirements.

THE NATIONAL BANKING SYSTEM

Congressional provisions for a national currency. As early as 1861 it was proposed that United States bonds should be made available to support the issue of a sound and uniform currency. It was hoped that such a scheme would have the double advantage of stimulating the government bond market and of furnishing the country with a currency secured by the obligations of the government. The War made it imperative that the government should be able to obtain necessary funds; at the same time it was important that the disadvantages of an uncertain currency be avoided if possible.¹⁵ Nevertheless, it was not until March 3, 1863, that there was passed "An act to provide a National currency, secured by a Pledge of United States Stocks, and to provide for the Circulation and Redemption thereof."¹⁶ This act was the legal beginning of the national banking system. That the main interest of Congress in passing this act was centered upon the currency question is evident from the title. The following year (June 3, 1864), the original law was repealed and a new law enacted, incorporating some changes that appeared, in the light of previous experiences, to be desirable.¹⁷ This law, like its predecessor, prescribed in minute detail the requirements pertaining to note issue, but little

¹⁵ Davis, Andrew M., *The Origin of the National Banking System*, N.M.C., 1910, pp. 36-37.

¹⁶ 12 Stat. L., 665.

¹⁷ 13 Stat. L., 99.

attention was given to the discount and deposit functions of the national banks.

Provisions of the National Banking Act. The main provisions of the law governing the setting up and operation of national banks should be noted for they have constituted the legal basis for the commercial banking development in the United States.

Administration of the new National Banking Act was placed in the hands of an official known as the Comptroller of the Currency. The Comptroller is appointed by the President and operates under the general direction of the Secretary of the Treasury. His duties are many and his authority is wide. It is to him that applicants for national banking charters must go and the decision to grant or withhold a charter turns upon the Comptroller's opinion as to the applicants' fitness and the community's banking needs as well as on technical compliance with rules governing organization. It is the Comptroller who maintains a corps of examiners responsible for the annual examination of each national bank. It is he who requires periodic reports of the condition of national banks and under the law sets forth operating regulations. Until the creation of the Federal Deposit Insurance Corporation, in 1934, a representative of the Comptroller, as receiver, presided over the last rites of defunct national banks. All in all, the Comptroller has been and is a powerful figure in our banking system.

Intent on creating a sound banking structure, Congress established rigid capital requirements for the new national banks. Minimum capital requirements varied according to the population of the city in which the bank was organized. These requirements were:

- \$ 50,000 in cities of not over 6,000 inhabitants
- 100,000 in cities of from 6,000 to 50,000 inhabitants
- 200,000 in cities of over 50,000 inhabitants.

At least one-half of a bank's subscribed capital was to be paid in before starting business, with the remainder to be paid within five months. Moreover, taking warning from past evils, Congress forbade banks to lend on their own stocks. To encourage growth of owners' equity, national banks were originally required to apply one-tenth of their net profits to the accumulation of a surplus until the latter amounted to 20 per cent of the capital. Today the minimum capital requirements are the same as given

above with two exceptions. First, banks newly organized, and not merely converting from state to national charters, must now sell their stock at a premium so as to create a paid-up surplus of at least 20 per cent of the capital before beginning business. Second, all national banks must now devote at least 10 per cent of their net profits to surplus accumulation until the surplus account equals the capital stock.¹⁸ Double liability was attached to national bank stock and remained until 1937. It is evident that the national banking system achieved a much more substantial capital structure than existed for many banks in the earlier period.

In 1900 a concession was made to small towns by reducing the required minimum capital for banks in towns of not over 3,000 inhabitants to \$25,000, whereas \$50,000 had previously been the minimum. This change was made for the purpose of stimulating the organization of banks under national instead of state charters, since state laws quite generally permitted the organization of banks with a capital of \$25,000 and sometimes less. It was not until the passage of the Banking Act of 1933 that the minimum requirement was restored to \$50,000.

Newly organized national banks, before commencing business, were originally required to purchase a certain amount of United States bonds and deposit them with the Treasurer of the United States. This amount was fixed at not less than \$30,000 and not less than one-third of the bank's capital. The requirement was later modified and, in 1917, was removed altogether. This provision for the purchase of government bonds was the foundation for the new currency to be issued by the national banks. Following the practice established by the free banking laws, Congress granted national banks the privilege of issuing their notes on the basis of government bonds placed in the hands of the Treasurer. Each bank was entitled to receive national bank notes from the Comptroller to an amount not over 90 per cent of par or market value of the deposited bonds, whichever was the smaller. The maximum note issue for any one bank was limited to the amount of its capital. Later, as government bonds bearing the "circulating privilege" rose substantially in value, national banks were

¹⁸ Special capital requirements are imposed on national banks that operate branches outside the town or city limits of the parent bank. Furthermore, the total capital of a national bank operating branches must equal the sum of the minimum capital requirements for establishing separate national banks at the location of the parent and all the branches.

allowed to issue notes to the full par value of bonds deposited with the Treasurer. Holders of national bank notes thus had at all times the protection afforded by the government bond collateral. But to make doubly sure that holders of these notes would not suffer loss, should a national bank fail properly to redeem its notes the holder could "protest" them. The Comptroller was then empowered to take possession of the bonds pledged to secure the note circulation and to give notice that the notes might be redeemed at the Treasury. The Treasury might dispose of the bonds, and any deficiency appearing after the redemption of the notes was chargeable as a prior lien against the assets of the bank.

At first the total circulation of national bank notes was limited to the wholly inadequate amount of \$300,000,000. But as conversion of state banks to national charters in the East became widespread, it became apparent that no circulation privileges would remain for the West and South, where the existing banking system had generally collapsed, and the organization of new national banks was slow. The limits were therefore modified and in 1875 were entirely removed.

In return for the privilege of note issue, the banks were originally required to pay an annual tax amounting to 1 per cent on their outstanding notes. This tax was reduced in 1900 to one-half of 1 per cent.

The origin of reserve requirements for national banks. The original national banking law required the newly founded national banks to carry lawful money reserves against both deposits and circulating note liabilities. These reserves were to be 15 per cent for all banks outside of certain designated reserve cities. Three-fifths of this amount might be carried as a deposit in banks in the reserve cities for redemption of notes. The reserve city banks, in turn, were required to choose a national bank in New York City as a redemption agent for their notes and might carry one-half of their required 25 per cent reserves on deposit with that bank. The New York banks were required to carry a 25 per cent reserve in cash. By 1874 it had become apparent that national bank notes had acquired such a reputation for soundness that redemption was seldom required. After 1874, therefore, the banks were no longer required to carry reserves against their note issues or to maintain redemption funds in other cities. Instead, each was required to maintain a deposit of lawful money at the Treasury

equal to 5 per cent of its notes in circulation. Out of this fund the Treasurer of the United States was authorized to redeem the bank's notes as presented. The required reserves against deposits remained as before until modified by the establishment of the Federal Reserve System. As we shall see a little later, these reserve requirements failed to insure the maintenance of cash payments by the national banks in time of crisis. Present-day reserve requirements for banks belonging to the Federal Reserve System are based upon the classification of country, reserve city, and central reserve city banks, which had its origin in the old national banking system.

Reaction to the national banking law. The response of the bankers to the new national banking law was disappointing. Existing state banks found it more profitable to retain their state charters with their note-issuing privileges than to come under the restrictions of national charters. By the end of 1864 there were only 638 national banks, with a circulation of \$67,000,000.¹⁹ Congress therefore passed an act on March 3, 1865, which, with later amendments, levied a 10 per cent tax upon any bank or individual paying out or using state bank notes.²⁰ One of the amendments permitted state banks to be converted into national banks while retaining existing branches. The prohibitory tax on state bank notes, as well as the leniency shown toward branch banks, tended to increase the number of conversions from state to national charters. By the end of 1865 national banks had increased in number to 1,582, with a circulation of \$213,000,000.²¹

Expanding the powers of national banks. The national banks have from the first been subjected to more rigorous regulations and have been more limited in their powers than the state banks. The state banks were able to make real estate loans, were usually free to carry on investment banking functions, and were frequently permitted to lend more than 10 per cent of their capital stock to one borrower, to own corporate stock, and to organize as trust companies. Furthermore, because of more favorable reserve requirements against time deposits, they were able to absorb the bulk of the savings deposit business. The national banks attempted to obtain some of the advantages of state charters by organizing state

¹⁹ Hepburn, A. B., *A History of Currency in the United States*, 1915, p. 310.

²⁰ 13 Stat. L., 469; 14 Stat. L., 146.

²¹ Hepburn, *op. cit.*, p. 311.

bank affiliates with power to lend on real estate, to engage in trust company business, and to compete for savings bank deposits. This arrangement was available only to the larger banks. The smaller national banks could not afford two separate organizations.

The advantages enjoyed by the state banks are reflected in the figures for the relative number of state and national banks shown in Chart No. 10. This relationship has not changed appreciably since 1940.

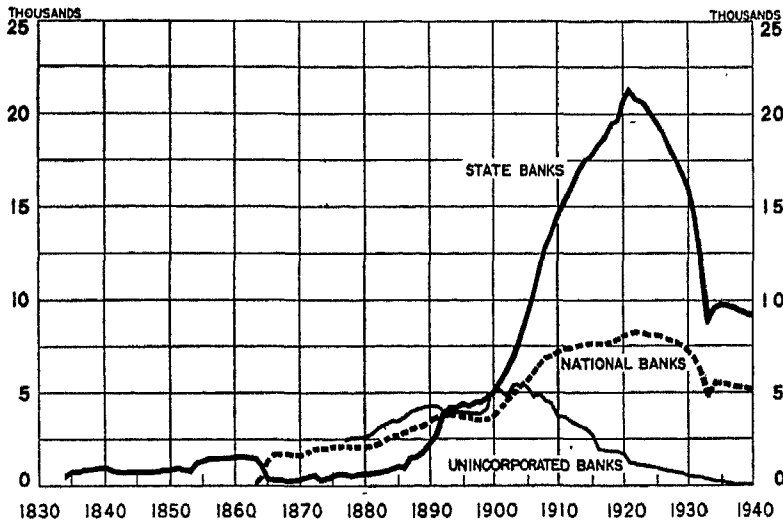


CHART 10. COMMERCIAL BANKS IN THE UNITED STATES. Source: *Banking Studies*, p. 15, published by the Board of Governors of the Federal Reserve System.

In what appears to have been a vain attempt to overcome the advantage of state charters, the powers of national banks have been gradually increased. To accomplish this, the following changes were instituted:

1. The national banks outside of central reserve cities were given power to make a limited amount of first-mortgage loans on improved farm land for a period of not over five years, and on city real estate for not over one year. Later (1927 and 1935) these privileges were expanded.
2. Under the Federal Reserve Act of 1913, national banks can apply to the Board of Governors of the Federal Reserve System for permission to qualify as trust companies.
3. The Federal Reserve Act permits national banks to carry

lower required reserves against time deposits than against demand deposits.

4. At various times the limit on the size of individual loans of national banks has been relaxed. In 1906 the limit was made 10 per cent of a bank's capital and surplus instead of the previous rule of 10 per cent of the capital alone. In 1919 and 1927 exceptions were added to bring the law to its present form.

5. The double liability feature of national bank stock was abolished in 1937.

National bank notes. In spite of the stress laid upon regulating the issuance of national bank notes, their importance was in many ways overshadowed by the growth of deposit banking. More and more people found it convenient to utilize checking accounts rather than currency for many types of payments. The loans of banks, therefore, led to demand deposit rather than to bank note expansion. Nevertheless, national bank notes provided a highly necessary and desirable part of our currency supply during the years of their existence. Although they could not be readily varied in quantity to meet seasonal changes in currency requirements, *i.e.*, they were inelastic, they did provide a currency of undoubted soundness. This was a great gain over the uncertain issues of the state banks.

Bonds having the "circulation privilege" did not include those issued after our entry into World War I. As a result, the supply of collateral for national bank note issue tended to become scarce. This mattered little after the establishment of the Federal Reserve System, which provided adequate amounts of elastic currency. But during the liquidity crisis of 1932, Congress amended the banking laws to permit national banks, for a period of three years, to issue national bank notes against any United States bonds bearing less than $3\frac{3}{8}$ per cent interest. Under the provisions of this act, the issue of national bank notes was expanded by about \$300,000,000, reaching a peak of \$938,000,000 in February 1934. The privilege expired in 1935 and in anticipation the circulation of national bank notes was reduced again to its earlier volume. However, in July and August 1935, the Treasury used part of the profit derived from the devaluation of the dollar to retire the remaining bonds which retained the circulation privilege. This action left national bank note issues with no available bond collateral. The Treasurer of the United States held cash funds instead of bonds as collateral for outstanding national bank notes. The notes were

therefore put into "process of retirement" and became the liability of the Treasury. As they wear out and are sent in to the Treasury they are retired from circulation and the banks that send them in are reimbursed out of the Treasury's cash. By the end of January 1950, all but \$89,000,000 in national bank notes had been retired.

DIFFICULTIES ARISING UNDER THE NATIONAL BANKING SYSTEM

The national banking system successfully met the problem of establishing a sound and uniform currency. National bank notes, backed by government bonds and the pledge of redemption by the United States Government, could hardly have been excelled for security. Moreover, the national banks themselves were a very substantial addition to the banking facilities of the country, particularly in the West and South, where banking had been chaotic. They furnished the backbone of the development of a commercial banking system on the discount and deposit basis at a time when deposit banking was becoming a more important function of American banking than note issue.

Seasonal variations in business. Nevertheless, there were some definite weaknesses in the financial and banking structure, which the national banking system failed to meet successfully. These weaknesses grew out of the seasonal character of American business activity and the tendency of banks to deposit surplus cash funds with city correspondents who undertook to pay interest and return the funds on demand.

The effects of seasonal variations in business activity on the banking system are very significant. In the United States there are two pronounced seasonal periods of expansion, one in the spring, the other in the fall. The latter is accentuated by the harvesting and marketing of crops. To serve the country competently, the banks should be prepared to make loans and pay out currency to meet the needs as they arise. For this purpose, unused reserves are required during the slack season.

The movement of excess and legal reserves to the money centers. It is possible that the original redemption system set up for bank notes, with its privilege of carrying part of the legal reserves with the city redemption agents, was partially responsible for the practice of sending excess funds to the money centers. At any rate, it soon became a firmly established habit for banks in the interior to

send their unused cash to Chicago and New York. The movement of funds to and from New York is well shown in Table 14, which gives the average monthly currency receipts and shipments of the New York banks for the years 1905 to 1908.

TABLE 14
CASH RECEIPTS AND SHIPMENTS OF NEW YORK BANKS *
(Monthly Averages for the Years 1905 to 1908)

<i>Month</i>	<i>Shipments</i>	<i>Receipts</i>
January	\$33,079,000	\$114,354,000
February	32,180,000	47,821,000
March	47,097,000	54,097,000
April	65,212,000	64,972,000
May	35,568,000	68,759,000
June	37,570,000	64,275,000
July	38,969,000	53,795,000
August	69,236,000	36,576,000
September	88,553,000	25,899,000
October	109,547,000	30,422,000
November	87,451,000	31,384,000
December	78,439,000	57,317,000

* Kemmerer, Walter, *Seasonal Variations in the Relative Demand for Money and Capital in the United States*, N. M. C., 1910, pp. 77-79.

It was the New York banks that were most successful in attracting these seasonal deposits, owing largely to the outlet for loanable funds in the New York stock market. The competition for bankers' balances among the so-called "Wall Street Banks" was keen, and the interest rates they offered were excessive. Before the crisis of 1873, seven of these banks held between 70 and 80 per cent of the bankers' deposits. At the same time their cash reserves were slightly below the legally required 25 per cent.²² This situation naturally developed out of the competition of these banks and their desire to make profits. Circumstances induced them to expand their loans to the maximum on the basis of country bank deposits whenever borrowers were available. During stock market booms, reserve ratios tended to stay at the minimum allowed by law. It necessarily followed that a reversal of the flow of cash from New York to the interior banks put great pressure upon the New York banks to liquidate their loans. To illustrate this point, in 1872 the loans of the seven banks referred to above were

²² Sprague, O. M. W., *Crises Under the National Banking System*, N. M. C., 1910, pp. 15-24.

\$80,000,000 in July and \$61,000,000 in October after the autumn withdrawals by country banks had occurred. This was a loan contraction of 24 per cent.²³

The result of loan contraction by New York banks. The effect of this drastic contraction of loans by New York banks may be easily visualized. The loans reduced were mainly call loans to finance speculators on the stock exchange. To pay off their loans, borrowers had to do one of two things. They might and did at times, when the money market was functioning normally, borrow elsewhere to repay the bank which was calling their loans. During the autumn withdrawals, this recourse was not available to any great extent. The only course open, therefore, was to sell securities held on borrowed funds. Only thus could the borrower build up checking account balances in banks, out of which he could discharge his debts. Again, when times were normal and public confidence in the future was high, the borrower had little trouble in paying his debt, since buyers for his stock readily appeared if the price was favorable. In times of excessive speculation, when stock prices were pushed so high as to cause a genuine fear of future values, the speculator-borrower found himself with no market for his securities. The lower prices fell, the more general became the refusal of others to buy stock. There followed an acute panic in security prices, a situation which has often preceded a major depression in business.

The alternatives to loan contraction. But what of the banks at such a time? If loans could not be called because securities could not be sold, the banks found it impossible to reduce their deposit obligations. If their reserve ratios were already at the minimum prescribed by law, they were in the position of having to choose between shipping currency to the interior and allowing reserve ratios to fall below the legal limit, or maintaining their reserve ratios but defaulting on their promise to return country bank funds on demand. The first choice, which was followed in 1873, would have been the more desirable one from the standpoint of public policy. At other times the city banks followed the second method, with the result that a bankers' panic and general suspension of cash payments by banks developed. When this happened, the effect upon business was paralyzing. Country

²³ Sprague, *op. cit.*

banks refused to purchase drafts drawn on commercial houses in the cities because they could not be collected. The movements of trade were therefore hindered. Exchange on New York sold in Chicago at a discount of \$30 per \$1,000 in August, 1893, in the midst of the third crisis of that year. Banks struggled to improve their reserve ratio by reducing loans, which further embarrassed businessmen. Locally, currency sold at a premium in terms of bank deposits.

Because the city banks carrying bankers' balances held almost no excess reserves, they were compelled to choose between a contraction of loans, a reserve ratio below the legal limit, or suspension, whenever there was a decline in such balances held by them. During the crises of 1893 and 1907, particularly, they preferred to suspend cash payments rather than allow their reserves to fall much below 25 per cent. Critics of the system have been inclined to place a large part of the blame for the difficulties upon the rigid reserve requirements. The law, as it stood, did not forbid banks to allow reserves to fall below the legal limit. It merely forbade the making of new loans and the paying of dividends while banks were in that condition. True, this was somewhat awkward for the banks, but it was not sufficient cause for suspension. It was the attitude of the banks toward the reserve limit rather than the reserve limit itself that was at fault. Either the New York banks, open to largely predictable seasonal pressure from country bank withdrawals, should have willingly utilized their reserves in time of need, or they should have maintained reserves above the 25 per cent limit for such emergencies as were certain to arise.

The need for elasticity. The banking and currency situation proved, therefore, a most trying one. As the banking system actually operated, it failed miserably to give the country a smooth-functioning banking service in keeping with its needs. As we observed earlier in this discussion, the trouble arose out of the inability of the system to adapt itself to the seasonal needs of business. It should be noticed that the ebb and flow of funds from the country areas into the city banks was not only a seasonal occurrence but a cyclical one as well. In slack years, country bank balances crowded the central money markets; while during prosperity, the tendency was toward a reversal of the process. This, in itself, was not so important a factor in causing difficulties as were the seasonal movements. When harvesting and grain-mov-

ing time came, the agricultural banks required currency to meet the needs for money in hand-to-hand circulation. The autumn rise in general business also added to the currency requirements. Banks needed their cash both for payment into circulation and as a reserve basis for new loans. Stating the situation in a somewhat different way, the banking system needed seasonal elasticity of some sort to enable it, without strain, to make new loans and pay out cash when seasonal needs arose. In practice, a seasonal expansion in the demand for loans and currency in the interior required a sharp curtailment of loans on the stock market at least; at its worst, it precipitated a general collapse.

This raises the vital question of how a banking system can achieve the required elasticity. So far as mere currency requirements are concerned, the ability of banks to shift their demand deposit liabilities into note liability form would meet the situation. Then loans and deposits on existing cash reserves need not be reduced. For this reason the critics of the national banking system placed a large part of the blame for the trouble upon the national bank notes. They were, it was alleged, inelastic in nature because they were secured by government bonds.

Why national bank notes were inelastic. There are several reasons why national bank notes were not responsive to the needs for currency. First, since they were issued against government bonds, the maximum volume of notes was limited by the amount of government debt bearing the circulation privilege.

Second, the available bonds often sold at such a high premium as to destroy the advantage of their purchase and use as collateral for note issue.

Third, it was impossible for an individual bank to meet its currency needs by the purchase of bonds with the circulation privilege. The premium at which they sold meant that a bank would perhaps lose more cash than it received in the form of notes. Moreover, a considerable delay was involved in the process. Obviously, then, a bank could make a seasonal increase in its currency only on the basis of bonds already owned or upon borrowed bonds. The latter were used to a limited extent.

Fourth, since seasonal elasticity could be obtained only by issuing notes against bonds already in possession of the bank, it would have been necessary in the off seasons to retire notes from circulation while retaining the bonds. Here we have the real cause of

the inelasticity of national bank notes. No self-respecting banker would care to retire his notes and hold the low-yield United States bonds. In fact, his notes were in general circulation and seldom reappeared at his bank, and hence could hardly be retired. The only alternative remaining to accomplish a reduction of currency was the sending in of legal tender currency to the Treasury. This practice, of course, would be unprofitable if interest could be obtained from city correspondents for the deposit of such currency. Whenever a banker's supply of cash exceeded the existing local needs, he promptly sent it to his city correspondent, who in turn utilized it as a basis for credit expansion in the city markets. Under the circumstances, regardless of the type of note issue that might have been permitted, short of one with no fixed top limit, bankers issued all the notes allowed and sent in surplus lawful money to the money centers in slack times. Consequently, they found themselves unable to issue more notes during the busy season. This was certain to be the result unless a bank's note-issuing powers were not completely exhausted before bank notes had satisfied the local currency needs. Then further note issue would have become superfluous.

The real source of elasticity of credit and currency. The real secret of the inelasticity of loans and currency of the national banking system lay in the unwillingness of banks to refrain from utilizing their funds in the speculative markets. The source of elasticity in a banking system, as is so ably pointed out by L. W. Mints,²⁴ is in the maintenance by banks in slack times of unused reserves in an amount sufficient to care for later needs. Because of their desire for competitive profit, the New York City banks, which carried the lion's share of the bankers' balances, failed to carry a sufficient margin of unused reserves to enable them to meet the interior's changing demands for currency. In other words, they did not perform the duty that their position imposed upon them.

EMERGENCY MEASURES TO MEET THE BANKING CRISES

The place of the Independent Treasury System. After the Second Bank of the United States ceased to function as the fiscal agent and depository of the Federal Government, Treasury funds

²⁴ "The Elasticity of Bank Notes," *Journal of Political Economy*, August 1930, Vol. 38.

were deposited in state banks. Many of these failed, however, in the crises of 1837 and again in 1839 to the considerable embarrassment of the Treasury. Congress, therefore, established the Independent Treasury System, which was to hold specie and notes of specie paying banks received as revenue. It was originally established in 1840, was abolished in the following year, and finally re-established on a permanent basis in 1846. Whenever Treasury receipts exceeded disbursements the cash reserves of the banks tended to fall. On the other hand, excess disbursements by the Treasury tended to increase bank reserves. Moreover, after the national banks were established, they might be used as depositories of part of the Treasury funds, at the option of the Treasury. Any shifts in the amount of funds deposited in the national banks also affected the volume of available bank reserves.

Treasury aid to banks. In times of money stringency, the banks clamored for aid from the Treasury, which normally held substantial amounts of currency. During the panic of 1873, the Treasury placed about \$13,000,000 in the money market by purchasing bonds for sinking fund retirement. During the troubles of 1890, the Treasury disbursed nearly \$70,000,000 in the redemption of bonds. In 1893 similar action was taken. In 1907 the Treasury aided banks by depositing with them \$36,000,000 between October 19 and October 31,²⁵ while it more or less regularly expanded its deposits with the "pet banks" each autumn as crop-moving time arrived.

Clearinghouse loan certificates. The banks themselves utilized clearinghouse loan certificates as a means of preserving a semblance of normal operations in the face of restrictions on currency payments. These loan certificates were issued by the clearinghouse committee to member banks with debtor clearinghouse balances that could not be met in cash without impairment of reserves. The certificates, bearing interest and properly secured by the deposit of collateral by the debtor bank, were acceptable among the local banks in settlement of clearinghouse balances.

The use of loan certificates was frequently coupled with a refusal by banks to cash checks unless presented by a depositor willing to take credit on his own deposit account, or by a clearinghouse bank that would take payment in such loan certificates, so that

²⁵ Sprague, *op. cit.*, pp. 40-41, 139, 263.

settlement could be made without any loss of cash. Under this arrangement, banks were able to withstand withdrawals arising from purely local runs or local business transactions. They might, in some instances, even expand loans to borrowers who had to meet local commitments.

Although the clearinghouse loan certificates permitted the functioning of local deposit currency, they did little to care for the needs for actual currency. For instance, their use would not enable New York banks to pay out currency to their country correspondents. Neither would it facilitate the meeting of local currency demands. Certified checks and cashier's checks were sometimes used to supplement the use of ordinary checks. In 1873 eight cities resorted to the use of clearinghouse loan certificates; in 1884 New York alone issued them; in 1893 they were issued in eight cities; and in 1907 they were issued in 42 cities.²⁶

Clearinghouse checks. To meet the need for actual hand-to-hand currency, clearinghouse associations issued loan certificates (or their equivalent) in small denominations, engraved to resemble currency. These were acceptable by the banks for deposit and, of course, were redeemable in legal money when suspension was over. In 1907 about \$35,000,000 of this illegal emergency currency was issued.²⁷

Emergency currency under the Aldrich-Vreeland Act of 1908. The acute banking crisis of 1907 resulted in the passage of an emergency currency law which provided for the voluntary organization of incorporated national currency associations by national banks. Such associations could apply to the Comptroller for additional circulating notes to the amount of 90 per cent of the value of state and municipal bonds offered as collateral and 75 per cent of the value of other paper and bonds.

The total amount of such emergency currency was not to exceed \$500,000,000. To assure its retirement, a tax was levied against the notes, varying from an annual rate of 5 per cent for the first month up to 10 per cent for the sixth and subsequent months. No occasion arose for the use of the privileges of this act before it expired June 30, 1914. In the meantime, however, the Federal Reserve Act had been passed. Since the reserve banks could not be put into operation before the expiration of the old emergency

²⁶ Sprague, *op. cit.*, pp. 45, 62, 112, 142, 145, 180, 289.

²⁷ *Ibid.*, p. 452.

currency law, Congress incorporated into the Federal Reserve Act a one-year extension of the old act, with modifications to include state member banks under its privileges and with other minor changes, including a lowered tax rate.

The outbreak of war in Europe put great pressure upon the American banking system, and the banks quickly availed themselves of the privilege of obtaining emergency currency. Forty-five national currency associations were organized, with 2,197 members, which were authorized to issue \$386,444,215 in new currency.

THE SOURCE OF ELASTICITY OF CURRENCY AND CREDIT

Seasonal variations in business create very definite variations in the need for currency and credit. To some degree the needs of one part of the country may not coincide with those of other parts, thus allowing a dovetailing of cash requirements among different banks. Whereas some banks are under pressure to expand loans and pay out currency, others are not. Any arrangement that permits the excess reserves of banks in one area to be made available for use in others introduces an element of elasticity into the whole system. A comprehensive system of branch banking partially achieves this result. Even under a unit banking system such as ours there are ways in which this dovetailing of demands can be brought about. For example, large borrowers can resort to the open market and thus tap the unused funds of banks outside their own territory. Excess funds may be pooled by deposit in banks in the money centers where the shifting funds of individual banks tend to create a sustained fair-weather fund on which the money market may draw. Banks may and often do borrow from each other. All of these practices existed to some extent under the old national banking system but proved inadequate to meet the needs of times of acute crisis.

Need for a central bank. Neither the dovetailing of requirements nor the many emergency measures described above held a satisfactory solution to the problem of bank panic and suspension in time of crisis. The only effective cure lay in the maintenance of an adequate supply of unused reserves on which banks might draw. Privately owned banks, operating competitively and for profit, will not willingly accumulate idle cash reserves so long as there exists an adequate loan outlet to acceptable borrowers who

ostensibly are willing to repay on short notice or call. Therefore such banks cannot be relied on to provide the excess reserves in slack periods needed to provide the expansion needed at other times. Instead, such action is properly one of the functions of the central bank. It was a recognition of the crying need for such an institution in the American banking system that led to the establishment of the Federal Reserve System.

One vital distinction between central banks and other banks lies in the fact that custom, tradition, or law sets sufficient curbs upon the profit-seeking motive to insure that central bank affairs are administered with an eye to proper public policy. Central banks normally provide other banks with reserves, either in the form of deposits with the central bank or in the form of notes. So long as the central bank itself carries sufficient reserves to enable it to make new loans, either in the general market or directly to other banks, it can, by so doing, expand the reserves of other banks almost at will. This is, of course, the reason why the profit motive of a central bank must be restrained, since otherwise it would be likely to behave in the same manner as the Wall Street banks.

Questions for Study

1. Why, in the early days, was there so much popular enthusiasm for bank loans based on land?
2. Why did the early commercial loan banks succeed so much better than did the land banks?
3. Why did early banking laws pay so much attention to the note issuing function?
4. Where did wildcat banks get their name? Why were their note issues so often in default?
5. What forward step toward sound banking was taken by the Suffolk Bank?
6. In what manner could and did the First and the Second Bank of the United States impose restraint upon the state bank note issues?
7. What was the Safety Fund System of 1829? What is its present-day counterpart?
8. What principles incorporated in the early state free banking systems were later found in the national banking system and in the Federal Reserve Banks?
9. What advance in banking was accomplished by the establishment of the national banking system?

10. a) What was the basis of the national bank note issue?
b) Why did not the national bank note supply respond readily to seasonal and cyclical changes in the need for money in circulation?
c) What finally became of the national bank notes?
11. What part did each of the following play in the development of periodic crises in the national banking system before 1913:
a) Seasonal variations in business.
b) The bond security requirements for national bank notes.
c) The attraction of Wall Street for excess cash reserves of country banks.
d) Legal reserve requirements.
e) Absence of a central bank carrying excess reserves.
12. What steps were taken to ease the banking crises: a) by the Treasury; b) by the clearinghouses.
13. What was the purpose of the Aldrich-Vreeland Act of 1908?
14. Why is a central bank essential for credit and currency elasticity?

The Nature of the Federal Reserve System

THE ALDRICH-VREELAND ACT OF 1908, WHICH PROVIDED FOR TEMPORARY issues of emergency currency by groups of national banks, sought also to provide the basic groundwork for fundamental banking reform. Consequently, it created a National Monetary Commission, which carried out an extensive investigation into banking history and current banking practices both at home and abroad. The results of its studies, made by trained economists, have been published and furnish a voluminous source of historical information on banking experiences before 1910. In addition, the Commission prepared and recommended a banking reform measure known as the Aldrich Bill, which provided for the formation of a National Reserve Association to be capitalized at not less than \$100,000,000. It was to have its head office in Washington, to comprise 15 branches, and to be owned by the member banks. The central bank would have power to rediscount paper for its members, hold deposited reserves without interest, and deal in the open market in United States bonds. It might issue currency against its general assets, provided a 50 per cent cash reserve was maintained.¹ The bill was introduced in 1912 but was not passed. It became a controversial question in the presidential election of that year, with the Democratic platform flatly opposing the establishment of a central bank but advocating a systematic revision of the banking laws to provide temporary relief and protection from the "Money Trust."² The Democratic victory of

¹ Willis, H. Parker, *The Federal Reserve System*, New York, The Ronald Press Company, pp. 81-82.

² *Ibid.*, p. 103.

that year meant the end of the Aldrich Bill. In its place was passed the Federal Reserve Act of 1913. Instead of one central bank with branches, it provided for the setting up of a regional system of not less than eight nor more than twelve reserve banks. Thus the fear that the new system would be dominated by the Money Trust was allayed. Over the whole system was the Federal Reserve Board, which had general supervisory powers. Actually twelve districts were established, with a Federal Reserve Bank in each.

THE FEDERAL RESERVE SYSTEM AS A CENTRAL BANK

The functions of the Federal Reserve System. The Federal Reserve System, like other central banks, performs a variety of functions. These functions fall naturally into two major categories. The first involves the System's responsibility for making available and controlling the cash reserve funds of the commercial banks. In this category lies the responsibility for (1) the liquidity of individual commercial banks, *i.e.*, the availability of cash to meet irregular cash needs; (2) the elasticity of currency and credit needed to meet seasonal and other requirements of the economic system; and (3) such control of the volume of reserve cash as may best promote economic stability and employment. The primary functions of any central bank fall into this category. These are the functions that necessitate the development and application of what is called *central bank credit policy*, consideration of which must be postponed until a later chapter.

The second category of functions of the Federal Reserve System includes the performance of numerous tasks essential both to the smooth and proper working of the commercial banking system and to the convenience of the United States Treasury. In spite of their routine and ministerial character, these tasks or functions are highly important. But they seldom involve the considerations of high policy that characterize the exercise of the control over credit. Included in this second category is the task of operating the Federal Reserve check collection system and wire transfer service, which we have already examined in Chapter 10. In addition, there are the vital functions performed for the Treasury as its fiscal agent. In this capacity the Federal Reserve Banks collect and hold on deposit for the Treasury billions of dollars worth of checks each year received from taxpayers and other sources of

government revenue. They also pay government checks and bond coupons. In addition, the Federal Reserve Banks act as intermediaries between the Treasury and the money market when the Treasury wishes to issue securities, and they may, within limits, lend directly to the Treasury.

The Federal Reserve System and the availability of bank reserves. As was indicated above, one of the primary functions of the Federal Reserve System is to provide additional cash reserve funds needed by the commercial banks. The need for such additional cash by individual banks arises from their losses of cash incident to their normal banking operations. If such individual banks are to be able to function normally and properly, they need a "lender of last resort" to which they may confidently turn whenever seasonal and irregular losses of cash cause an impairment of required reserves. The commercial banks as a whole system require additional cash reserves because of seasonal and other developments that bring increased currency and reserve requirements.

In order that the Federal Reserve Banks may be able to meet the above needs, they must carry sufficient cash reserves of their own to enable them safely and legally to advance the funds required by the commercial banks and by the money market. Consequently, it is of the utmost importance that the reserve banks carefully refrain from following the practice of commercial banks, which tend to expand their loans to the maximum dictated by individual profit motives. Instead, the reserve banks, as central banks, must extend credit in the light of the over-all public need rather than with an eye for profits. In other words, it requires a "credit policy" divorced from earnings.

Because of their dependence upon the Federal Reserve Banks for liquidity, the member banks quite naturally carry their cash reserves in the form of notes and deposits of the reserve banks. This is a common practice of commercial banks wherever central banks exist. Two advantages accrue from it. First, to increase their reserve balances, member banks tend to deposit standard money, or claims to such money, in the Federal Reserve Banks thus tending to concentrate the standard money supply in the hands of the Federal Reserve Banks. This increases the size of the standard money pool held by the reserve banks and with it their power to make loans to banks needing accommodation. Second, because

the notes and deposits of the reserve banks require only fractional standard money reserves, the lending power of the reserve banks is several times larger than it would be were they limited to lending standard money only.

The general structure of the Federal Reserve System. The foundation upon which the Federal Reserve System rests is the member banks. All national banks and the more important state-chartered banks are members of the system. The member banks purchase stock in and therefore own the Federal Reserve Banks of their own district. Furthermore, they elect two thirds of the board of directors of each Federal Reserve Bank.

Technically, each of the twelve Federal Reserve Banks acts as a central bank for its own district. It carries the deposited reserves of its member banks and it lends them cash reserves when more are needed. In actual practice, however, the Federal Reserve System as a whole should be thought of as comprising a central bank for the whole country. Through the unifying influence of the Board of Governors of the Federal Reserve System and the Open Market Committee, whose specific functions will be considered later, the policies and activities of the twelve individual reserve banks are closely tied together. In many ways their operations resemble those of a single central bank with twelve branches. Therefore, as a point of departure in the study of central banking in the United States, we shall examine the combined asset and liability statements of all of the Federal Reserve Banks.

THE FEDERAL RESERVE BANKS

We may best understand the operations of the Federal Reserve Banks by examining the combined statement of their assets and liabilities in Table 15.

The cash assets of the Federal Reserve Banks. The cash assets of the Federal Reserve Banks come from three main sources: the contributions of member banks through stock subscriptions, deposits of cash, and the issue of Federal Reserve notes in exchange for cash.

The purchase of Federal Reserve Bank stock, mentioned above, is of relatively small importance. At the beginning, member banks paid for such stock in cash; but today they pay for increased subscriptions with drafts against their balances or deposits in the Federal Reserve Banks.

Much more important is the deposit of cash (gold certificates and Treasury issues) for credit at the reserve banks. Member banks utilize such cash as it accumulates in their hands to increase their reserve balances in the Federal Reserve Banks. The Treasury likewise deposits gold certificates and other cash with the re-

TABLE 15

STATEMENT OF CONDITION OF ALL FEDERAL RESERVE BANKS, MAY 25, 1949
(In millions of dollars)

<i>Assets</i>		<i>Liabilities</i>	
Gold certificate reserve . . .	23,116.5	Federal reserve notes	23,240.9
Other cash	276.8	Deposits:	
Discounts & advances	171.1	Member bank reserve	
Industrial loans	0.6	accounts . .	18,026.6
U.S. Government securities:		U.S. Treasurer	
Bills	4,213.6	general	
Certificates	6,747.8	acc't	667.5
Notes	359.1	Foreign	482.6
Bonds	8,370.6	Other	495.3
Total government		Total deposits	19,672.1
securities	19,691.1		
Federal reserve notes of		Deferred availability items	2,127.8
other banks	98.9	Other liabilities	12.8
Uncollected items	2,312.8	Capital accounts:	
Bank premises	32.4	Capital paid in . .	204.4
Other assets	181.8	Surplus (sec. 7) . .	466.7
		Surplus (sec. 13b) .	27.5
		Other capital	
		accounts	130.0
		Total capital accounts	828.6
		Total liabilities and	
Total assets	45,882.5	capital acc'ts	45,882.5

serve banks to replenish balances drawn against to purchase imported and newly mined gold and silver. Hence increases in the supply of monetary gold, as well as silver purchases, tend to increase the cash holdings of the Federal Reserve Banks. On the other hand, when gold is exported the gold certificate reserve of the reserve banks declines.

A third way in which the Federal Reserve Banks, in the past, have increased their cash reserves is to pay out Federal Reserve notes into circulation in exchange for gold and gold certificates. Under present conditions, with gold entirely removed from circulation, further increases in reserve bank cash from this source are impossible.

The earning assets of the Federal Reserve Banks. The Federal Reserve Banks hold three main classes of earning assets. The first is "discounts and advances," which represent loans to and rediscounts for member banks as well as acceptances purchased in the open market. This class of earning assets is relatively small as may be readily seen by reference to Table 15. A second class of earning assets is the very insignificant item of "industrial loans," a few of which are still outstanding. United States Government securities constitute the third and most important class of Federal Reserve Bank earning assets. These securities were acquired in the open market during World War II to help member banks meet the credit and currency requirements of the times. The composition of the reserve bank holdings of government securities is modified from time to time in response to policy changes. Earning assets of the Federal Reserve Banks are important for two reasons. First, they represent the contributions of the reserve banks to the country's currency supply and to the supply of member bank reserves. Second, it is from these assets that the Federal Reserve Banks derive the income with which they pay their operating expenses and dividends on capital stock.

Federal Reserve Bank obligations. The outstanding liabilities of the reserve banks are deposits and notes. These obligations originate in the same manner as do those of ordinary banks—namely, from the deposit of cash and the making of loans. Further, they resemble the deposit and note obligations of ordinary banks in another way: to the owners of such obligations they are the equivalent of cash.

It thus happens that the cash resources of ordinary banks are made up mainly of the obligations of the reserve banks; to a lesser extent, silver certificates and United States notes constitute a part of the currency held by banks. Moreover, deposits in banks other than the reserve banks are the equivalent of cash to a depositing bank and are especially important in the case of nonmember banks. But variations in the cash resources of member banks and currency in hand-to-hand circulation consistently reflect variations in the obligations of the reserve banks.

Deposits of the Federal Reserve Banks. As can readily be seen by referring to Table 15, member bank balances comprise the bulk of the deposits of the Federal Reserve Banks. The remainder consist of deposits of the United States Treasury, deposits

of foreign banks and "other deposits." The latter include clearing balances of nonmember banks and deposits of numerous governmental departments and agencies other than the Treasury.

Each member bank is required by law to carry with its Federal Reserve Bank a deposit balance equal to a certain percentage of its own deposit liabilities. Such balances are known as "legal reserves," and to avoid penalty, must be maintained at the required level by the member bank. The details in respect to required and other reserves of banks have been examined in an earlier chapter. It is important here only to note some of the more significant causes that determine the total volume of such member bank reserve balances.

First, each member bank regularly presents for collection checks on other banks received on deposit. The final results of this process, after the familiar offsetting operations in the clearinghouse and the collection system, affects the size of the reserve balances of individual member banks. It does not, however, directly change the *total volume* of member bank reserve balances. Second, a decline in circulation requirements results in an increase in the till-money supply of member banks. Whenever till money becomes excessive, it is sent in for deposit at the Federal Reserve Banks. Conversely, when circulation requirements increase, member banks draw down their balances in the Federal Reserve Banks to obtain necessary currency. Thus we see that member bank deposits in the Federal Reserve Banks tend to change with changes in the volume of money in circulation. Third, the volume of member bank deposits in the Federal Reserve Banks varies with the expansion or contraction of credit by the Federal Reserve Banks. This is true whether member banks have gone to the reserve banks for accommodation or the reserve banks have taken the initiative by purchasing United States obligations in the open market. This practice will be examined more fully in the next chapter. Fourth, member bank deposits in the Federal Reserve Banks normally tend to rise and fall with changes in the supply of monetary gold. For gold importers sell gold to the Treasury at \$35 per ounce and receive in payment checks drawn against Treasury balances in the Federal Reserve Banks. Such checks are collected through the member banks, which receive credit on their reserve accounts. When gold is exported or sold for industrial uses the process is reversed and member bank reserve balances

fall. Finally, whenever the Treasury accumulates funds, from either taxes or borrowing, and deposits them with the reserve banks, the balances of the member banks tend to be reduced by a like amount. This places the Treasury in a position to wield powerful influence over the volume of member bank reserve balances. The significance of Treasury operations will, of course, vary with the magnitude of Treasury receipts and expenditures and its decisions in respect to carrying excess funds as deposits in member banks instead of in the Federal Reserve Banks.

Federal Reserve Banks are required by law to maintain a gold certificate reserve amounting to at least 25 per cent of their deposit obligations. This requirement has the effect of placing a top limit to the creation of deposits by credit expansion of Federal Reserve Banks.

Federal Reserve notes. It will be recalled that one of the major defects of the American banking system prior to the establishment of the Federal Reserve Banks was the inability of banks to meet seasonal currency demands without causing undesirable pressure and disturbance in the central money markets. As was pointed out in the discussion of that problem, the ability of the banking system to meet demands for currency and for loans resulting in more deposit credit is dependent not so much upon the form of bank note issue available as upon the existence of adequate excess reserves. The reserve banks, as we have seen, are in a position to hold excess reserves. The effectiveness of these excess reserves in providing currency elasticity is enhanced by the ability to issue notes on a minimum gold certificate reserve of 25 per cent.

Federal Reserve notes are the obligation of the United States Government, and since the act of June 5, 1933, which repealed the gold clause in contracts, they are full legal tender. Furthermore, they are the obligation of the issuing reserve bank. One reserve bank may not pay out the notes of another reserve bank under penalty of a 10 per cent tax. Instead, they must be returned to the issuing bank.

The requirements for Federal Reserve note issue are:

1. An application by the reserve bank to the Federal Reserve agent, who receives notes from the Board of Governors of the Federal Reserve System.
2. A tender of collateral to an amount equal to the notes issued to the reserve bank. This collateral may consist of:

- (a) Notes, drafts, bills of exchange, or acceptances acquired under Section 13 of the Federal Reserve Act. This includes rediscounted eligible paper and collateral notes of member banks secured by eligible paper or government bonds. Such collateral shall not include agricultural paper with a maturity in excess of six months, unless secured by readily marketable staple agricultural products or chattel mortgages upon livestock being fattened for market. Advances made by the reserve banks to members under regulations of the Board in accordance with the provisions of Sections 10a and 10b are also not available as collateral for Federal Reserve notes.
 - (b) Bills of exchange indorsed by a member bank and bankers' acceptances bought in the open market.
 - (c) Gold certificates.
 - (d) Direct obligations of the United States. The privilege of using these as collateral was first granted February 27, 1932, on a temporary basis and was periodically renewed for limited periods. The amendment of June 2, 1945, made the privilege a permanent one.
3. The maintenance of a reserve in gold certificates of not less than 25 per cent of its notes in *actual circulation* by the Federal Reserve Bank.
- (a) Gold certificates deposited with the agent as collateral may be counted as part of the 25 per cent gold reserve against notes, but not toward the satisfaction of the 25 per cent reserve requirement against deposits.
 - (b) Gold certificates deposited with the Board of Governors in the Interdistrict Settlement Fund may be counted as reserve against both note issues and deposits.
4. The maintenance, by the reserve bank, of a redemption fund in the Treasury of the United States for Federal Reserve notes in circulation. This fund must equal at least 5 per cent of the notes issued without gold certificate collateral and may be counted in satisfaction of the 25 per cent reserve requirement. The Federal Reserve agent also maintains a redemption fund with the Treasury against such part of the Federal Reserve notes as are backed by gold certificates in his hands.

The Board of Governors may, through the agent, grant or reject an application of a reserve bank for Federal Reserve notes. Furthermore, it may levy an interest charge, if it sees fit, on notes issued against collateral other than gold certificates. No such charge was made by the Board until April 24, 1947, when it announced that it was invoking its authority to charge interest on Federal Reserve notes. A charge was then made that was sufficient

to result in the transfer of interest payments to the Treasury to the amount of approximately 90 per cent of the net earnings of the Federal Reserve Banks after the required 6 per cent dividends to stockholding member banks.³

Significance of collateral behind Federal Reserve notes. It seems to have been the belief of those responsible for the original form of the Federal Reserve Act that currency should be issued only against self-liquidating commercial paper. Thus, it was thought, an automatic elasticity would be introduced into the note issue. In times of active business, member banks would rediscount businessmen's notes, and the reserve banks in turn might use such notes as collateral for currency as needed. A slackening of business, with a consequent decline in loan and currency requirements, would be accompanied by a reduction in rediscounts, a reduction in collateral held against notes, and thus a reduction of note issue. Since the claims of the holders of Federal Reserve notes against the issuing banks are prior to all other claims, it is unreasonable to believe that the segregation of collateral against Federal Reserve notes was made for the purpose of adding to the security of the notes. However, the faith in the segregation of special collateral as a device for insuring the existence of the *right* amount of Federal Reserve notes has been weakened, particularly with the gradual expansion of paper eligible for use as collateral. At present the most ardent believers in the efficacy of securing bank notes by commercial paper collateral must seriously question the genuine importance of collateral requirements under the existing law.

At times the collateral requirements have proved embarrassing to the Board of Governors in the execution of its credit policy. The best example arose in 1931 and 1932. At that time the Board was following a policy of building up the reserves of member banks through reserve bank purchases of government bonds in the open market. As a result of this practice and the declining demands for bank credit, borrowing and rediscounting by member banks had fallen to a point of relative insignificance. The reserve banks were therefore without discounted paper eligible to be used as

³ *Federal Reserve Bulletin*, May 1947, pp. 518-519. For a highly critical discussion of this application of the tax, see "More on Reserve Board's Illegal Distribution of Federal Reserve Banks' Earnings," by Walter E. Spahr, *Commercial and Financial Chronicle*, September 18, 1947.

collateral for Federal Reserve notes and were compelled to resort to the use of gold and gold certificates. The "free gold" (that part of the gold holdings which was not being utilized as note collateral and required reserve against deposit and note liabilities) was thus reduced. Any considerable demand for gold for export or hoarding depleted the free gold to the danger point. Under these circumstances it was feared that the reserve banks would be compelled to reverse their open-market operations, sell bonds, and force member banks to rediscount in order that collateral for note issue in substitution for gold might be obtained. This difficulty led to the temporary provision that the Board of Governors might permit reserve banks to offer direct obligations of the United States as collateral. By so doing, the reserve banks could continue to ease the money market by purchasing and holding securities in the face of a drain of gold. The 1945 amendment very properly removes all restrictions on the use of United States obligations as collateral and constitutes a real improvement. It would be quite as sensible, however, to abolish entirely collateral requirements for Federal Reserve notes.

Capital of the Federal Reserve Banks. The Federal Reserve Act provided that no reserve bank might be established with a subscribed capital of less than \$4,000,000. Every national bank is required, on penalty of forfeiture of its charter, to belong to the system, and any eligible state bank or trust company may join. Each member must subscribe to an amount of capital stock in the reserve bank of its district equal to 6 per cent of its own paid-up capital and surplus. If its capital and surplus are increased or decreased, its subscription to reserve bank stock is correspondingly modified. The Act further provided that in the event that insufficient capital was subscribed by member banks, stock in the reserve banks might be offered for sale to the general public. If the capital were still insufficient, stock might be sold to the United States Government. Only stock held by members would have voting power. In point of fact, the member banks in all cases subscribed to a sufficient quantity of reserve bank stock to make its sale to the public or to the government unnecessary.

One-half of the subscriptions to Federal Reserve Bank stock have been paid in, with the other half subject to call. The stock bears double liability. Thus should it become necessary to strengthen the capital structure of the Federal Reserve Banks,

member banks, as of May 1949, could be required to pay the unpaid part of their stock subscription amounting to \$204 million. Moreover, in the highly unlikely event that the reserve banks should become unable to meet their debts, member banks could be assessed an additional aggregate amount of \$408 millions.

Surplus accounts. Under Section 7 of the Federal Reserve Act, all earnings of the reserve banks in excess of the annual cumulative 6 per cent dividend on capital stock are to be put into the surplus account. By 1947, this amounted to over twice the paid-in capital. The policy of the Board of Governors, announced in 1947, requiring the reserve banks to pay an interest charge on Federal Reserve notes was designed to divert most of the excess earnings to the Treasury. Since Congress, in 1933, repealed an earlier provision that 90% of the earnings of the Federal Reserve Banks go to the Treasury, the Board's action circumvents the intent of the law. In 1947, the ratio of total capital accounts to note and deposit liabilities of the Federal Reserve Banks was only 1.6 per cent, surely an inadequate figure if there is to be any pretense of maintaining any capital structure whatsoever in the Federal Reserve System. To be sure, so long as the earning assets of the reserve banks remain mainly riskless short-term Treasury obligations the small capital structure of the Federal Reserve System matters but little. Even so, there seems to be little justification for the Board's action in terminating nearly all of the surplus accumulation in order to transfer to the Treasury the modest annual sum of about \$60 million. Surplus (Section 13b) consists of funds that were transferred to the Federal Reserve Banks by the Treasury to facilitate their making of industrial loans during the depression of the 1930's.

The profit motive and the reserve banks. We have seen that some escape from the complete domination of the profit motive is necessary in an institution that is to assume the functions of a central bank. In the case of the Federal Reserve Banks, special safeguards are incorporated in the law. The maximum dividend that can be received by the member banks on their stock is 6 per cent. This is cumulative, but regardless of the amount of net earnings of the reserve banks, the members do not share in the excess. Under the present law, all earnings in excess of what is required to pay the 6 per cent dividend are carried to the surplus account. In case a reserve bank should be liquidated, the member

banks, after payment of any debts of the reserve bank, would receive back the par value of the stock held, and any remaining assets would become the property of the United States Government. Originally the law provided that one-half of the net earnings in excess of dividends should go to surplus until it should equal 40 per cent of the paid-in capital. The remainder was to be paid to the government as a franchise tax. In 1919 the law was amended to require that all surplus earnings above dividends were to be carried to surplus until the latter equaled the subscribed capital, and thereafter 10 per cent of such earnings were to go to surplus and 90 per cent to the government. The tax levied upon Federal Reserve notes in 1947 was designed to accomplish a similar distribution of earnings. Under the Banking Act of 1933, however, the reserve banks were compelled to contribute half of their accumulated surplus to the Federal Deposit Insurance Corporation, and the franchise tax requirement was thereupon omitted altogether.

Thus we see that the reserve banks have no special incentive to make large earnings. When they have paid their expenses and earned dividends on their stock, they need not be concerned even though part of their cash assets are idle and unused.

Still another important feature is the absence of any requirement for the payment of interest on deposits in the reserve banks and the steadfast refusal of reserve banks to pay interest. This, in itself, frees the reserve banks from an important expense which otherwise might require them to increase their loans beyond the point dictated by prudent central bank policy.

Required reserves of the Federal Reserve Banks. The Federal Reserve Banks are required by law to maintain minimum gold certificate reserves to the amount of 25 per cent of their note and deposit liabilities. Before June 12, 1945, required reserves were 40 per cent of the amount of Federal Reserve notes in circulation and 35 per cent of deposits. The expansion of Federal Reserve notes to meet the wartime demand for currency, however, greatly reduced the excess reserves of the reserve banks. By May 1945, the actual reserves averaged but 45.6 per cent. In view of the uncertain future needs for Federal Reserve Bank credit arising from the war, Congress reduced reserve requirements to 25 per cent. This action gave the reserve banks additional elbow room for meeting future credit needs.

The question is frequently raised as to the need for any required minimum reserves for central banks. Since such minimum required reserves are not expected to leave the bank, they appear to serve but two purposes: (1) as window dressing to satisfy popular demand for high reserves; and (2) as a limitation on the total amount of central bank credit that can be created on the basis of existing amounts of cash reserves. If this is so, there need be no particular apprehension concerning the reduction of Federal Reserve requirements to 25 per cent, so long as adequate excess reserves are kept to insure the ability of the reserve banks to accommodate member bank requirements.

Although the Board of Governors has the right to suspend reserve requirements, the reserve banks have not relied upon such suspension to provide elasticity.⁴ Because they need not be concerned about earnings, the Federal Reserve Banks have generally followed a policy of carrying reserves against their deposit and note liabilities much in excess of the minimum legal requirements. During the decade of the 1920's, when requirements were about 40 per cent, they maintained reserves in the neighborhood of 70 to 80 per cent. Since the reduction of reserve requirements in 1945 to 25 per cent, the gold certificate reserves of the combined Federal Reserve Banks have varied from a low of 41 per cent in December 1945 to about 56 per cent at the end of 1949.

Federal Reserve Bank notes. In addition to the issue of Federal Reserve notes, the reserve banks were originally permitted to issue a bond-secured note similar to the notes of national banks. The occasion arose out of the expectation that national banks, freed by the new act from the necessity of maintaining in the Treasury a deposit of government bonds bearing the circulation privilege, would wish to dispose of these bonds and reduce their circulation. To facilitate this disposal, the reserve banks were authorized to purchase not over \$25,000,000 of the bonds annually. The reserve banks were given the option of converting these bonds, which bore 2 per cent interest, into other United States obligations without the circulation privilege or of using

⁴ During the boom and crisis of 1919-1920, the reserves of individual reserve banks were frequently impaired and the Federal Reserve Board required other reserve banks that were better supplied with reserves to rediscount paper for those with deficiencies. Even so, during 1920, eight of the banks suffered reserve impairment and paid taxes on the deficiency to the amount of \$24,664.05. *Annual Report of the Federal Reserve Board*, 1920, p. 46.

them as a basis for Federal Reserve Bank notes in the same manner as did national banks. Actually, the bonds so sold to the reserve banks were unimportant, and the issue of Federal Reserve Bank notes was correspondingly small. However, at two particular times Federal Reserve Bank notes came into use in a manner not intended by the original law.

In 1918 Congress passed the Pittman Act, which provided for the sale of \$350,000,000 of silver dollars as bullion and the withdrawal of a corresponding amount of silver certificates. To fill the gap in the circulating medium without forcing an extra burden upon their reserves, the reserve banks were authorized to issue Federal Reserve Bank notes to an amount equal to the silver dollars sold as bullion, upon deposit of United States certificates of indebtedness or one-year gold notes with the Treasurer of the United States. The maximum amount of Federal Reserve Bank notes issued under the Pittman Act was \$261,039,000. In the early 1920's, silver bullion was repurchased, silver certificates were reissued, and the Federal Reserve Bank notes were retired.

The second important occasion for the use of Federal Reserve Bank notes arose in connection with the banking holiday of 1933. At that time all of the banks were closed by presidential proclamation in order to stop the rapidly increasing panic and bank failures. The problem of reopening the solvent banks involved not only the determination of which banks should be opened, but also the method to be used to assure the possibility of meeting any renewed public demand for currency in exchange for bank deposits. The matter was handled by: (1) giving all banks, both member and nonmember, the right to borrow on adequate security from the reserve banks during the emergency; and (2) authorizing the reserve banks to issue Federal Reserve Bank notes upon the security of any United States bonds or upon any notes, drafts, or bills of exchange acquired under the law and deposited with the Treasurer. Thus there was available an almost limitless supply of currency for the reopened banks to meet any public demand for currency. Resembling Federal Reserve notes in appearance, Federal Reserve Bank notes were especially appropriate for emergency use. As obligations of the reserve banks their acceptability was assured; they required no gold reserve, and their quantity was thus limited only by the volume of paper that found its way into the reserve banks. Although \$912,000,000 of these notes

were printed, the high point of their issue in 1933 was only \$208,000,000.

In 1935, the Treasury called for redemption of all bonds bearing the circulation privilege. This action left only the privilege of issuing Federal Reserve Bank notes under the emergency rules of 1933. But the emergency was not officially terminated and the privilege of issuing these notes therefore remained until revoked by Congress on June 12, 1945. During the war, because the demand for currency expanded greatly, the Board of Governors authorized the Federal Reserve Banks to issue the \$660,000,000 of Federal Reserve Bank notes previously unissued. The purpose given was to save an estimated \$300,000 in printing costs.⁵ In a regulation governing the retirement of Federal Reserve Bank notes issued by the Secretary of the Treasury on March 31, 1933, the reserve banks were authorized to free themselves from liability for outstanding notes by crediting the Treasury's general account carried as a deposit with the reserve banks. The Board of Governors, therefore, authorized the Federal Reserve Banks to credit the Treasury's account for the full amount (\$660,000,000) of the additional issue of Federal Reserve Bank notes. Therefore they became immediately "in process of retirement," and as such were the liability of the United States Treasury. This action was sharply criticized on the grounds that it constituted an evasion of the law governing currency issue. Since any further issue of these notes is now prohibited, we may expect a gradual disappearance of this currency as it wears out and is sent in to the Treasury for retirement.

Questions for Study

1. What are the two main categories into which the functions of the Federal Reserve System fall?
2. What is meant by "a lender of last resort?"
3. What is the significance of the statement that central bank credit policy must be divorced from earnings?
4. What advantages arise from the practice by which member banks carry their cash reserves as deposits in the Federal Reserve Banks?
5. Examine Table 15. a) How large are the cash reserves of the reserve banks in comparison to their liabilities? b) Among the

⁵ *Federal Reserve Bulletin*, January 1943, p. 42.

reserve bank assets, how important are discounts and advances as compared to U.S. Government securities? c) Can you explain how the deposits and note obligations originated?

6. What are the *collateral* requirements for issuance of Federal Reserve notes? What can be used as collateral?
7. What are the reserve requirements for Federal Reserve notes? To what extent may the collateral requirements and reserve requirements overlap?
8. Explain the action of the Board of Governors in 1947 in levying a tax on Federal Reserve notes not covered by gold collateral.
9. a) Why were collateral requirements against Federal Reserve notes originally incorporated in the law?
b) Why did they prove embarrassing after 1932?
c) How was the problem finally solved?
10. How much dividend do members receive on their holdings of Federal Reserve Bank stock?
11. a) Why did the original act provide for the issue of Federal Reserve Bank notes?
b) What two events resulted in the issuance of a substantial amount of these notes?
c) How did they happen to reappear in 1943?

Operations of the Federal Reserve System

IF THE FEDERAL RESERVE BANKS MADE NO LOANS OR INVESTMENTS but merely limited their activities to holding cash deposited with them by member banks, they would exercise no influence over the credit conditions of the money market. Only when they extend credit and thereby create *secondary standard money* in the form of deposits and note currency do they affect the monetary and banking situation. In such a case they can be said to be in "contact with the money market." Such contact is genuinely effective, however, only when member banks are dependent upon Federal Reserve Bank credit for part of their required reserves.

CONTACT OF THE FEDERAL RESERVE BANKS WITH THE MONEY MARKET

The Federal Reserve Banks have two important and one unimportant contact with the money market. The important contacts are: (1) rediscounting and lending to banks which are eligible to apply to the reserve banks for accommodation; and (2) purchasing and selling various kinds of paper in the open market. The unimportant contact referred to is the power of reserve banks to lend directly to individuals under certain restricted circumstances. Each of these three modes of getting reserve bank funds into the market will be examined in turn.

Direct advances to banks. All banks belonging to the Federal Reserve System are entitled to look to their reserve banks for accommodation in time of need. They may offer eligible paper for rediscount, or they may offer their own promissory notes secured by eligible paper or United States bonds. Since September 1, 1939, nonmember banks have been allowed to borrow at the Federal Reserve Banks on the security of United States obliga-

tions. This privilege was extended by the action of the Board of Governors of the Federal Reserve System under the authority of Section 13 of the Federal Reserve Act, in order to minimize the dumping of United States securities by nonmember banks in need of cash. Nonmember banks, incidentally, must pay a higher rate of discount on such advances than that charged member banks.

Let us now examine the effect of rediscounting and borrowing upon the member bank and the Federal Reserve Bank involved. First, as to the member bank, the rediscounting of eligible paper is a sale of promissory notes and bills of exchange by the member bank to the reserve bank. The discount of the member's own collateral note by the reserve bank is a loan. Since rediscounting or borrowing is made necessary by a depletion of the member's reserves, the payment of the proceeds to the member bank is normally made by adding the amount to the member's reserve account and notifying the member. If the member is in need of currency, the reserve bank may ship currency instead of giving credit on the member's reserve account. In any event, the member bank's statement would be affected thus:

Assets:

1. Cash or reserve account increased by the face amount of rediscounted paper (or collateral note) less the discount.

Liabilities:

1. Bills payable and rediscounts increased by full face amount of rediscounted paper or collateral note.
2. Undivided profits (or unearned discounts) reduced by the amount of the discount.

It will be noted that no change is recorded in the loans and discounts of the bank engaging in rediscounting, but liabilities are increased instead. This is desirable because rediscounted paper must be indorsed by the member bank and hence acquires the same characteristics, for all practical purposes, as the member's own note.

The effect on the reserve bank which has rediscounted or lent to the member bank is similar to the effect of a lending operation by any bank. Three changes will probably appear: (1) its assets will be increased by the amount of "bills discounted"; (2) its liabilities will show an increase in deposits of members or Federal

Reserve notes in circulation; and (3) additions will be made to undivided profits or unearned discounts. As the volume of advances to member banks increases, the liabilities of the reserve bank correspondingly increase and the ratio of cash reserves to liabilities falls.

Open-market operations. Section 14 of the Federal Reserve Act permits the reserve banks to buy and sell in the open market: (1) bills of exchange eligible for rediscount; (2) obligations of the United States, including bonds of not more than six months' maturity of the Home Owners' Loan Corporation and the Federal Farm Mortgage Corporation (which are guaranteed as to principal and interest by the United States); (3) obligations of political subdivisions of the United States having a maturity of not over six months and issued in anticipation of revenue; and (4) acceptances of Federal intermediate credit banks and national agricultural credit corporations.

In actual practice open-market dealings of the Federal Reserve Banks have been confined, almost exclusively, to bankers' acceptances and obligations of the U.S. Treasury.¹ Purchases in the open market may be classified as being "voluntary" and "involuntary" in nature. The voluntary purchases are those in which the Federal Reserve Banks take the initiative. Their purchases of this kind are confined to U.S. obligations and are undertaken for the purpose of increasing member bank reserve accounts and stabilizing the prices of government bonds. On the other hand, sales of securities are used to reduce member bank reserves. Thus, such voluntary purchases and sales are an important part of the Federal Reserve credit policy designed to regulate member bank credit.

Involuntary open-market dealings of the Federal Reserve Banks are designed to provide and maintain a ready market for bankers' acceptances and, at times, for short-term government obligations. To accomplish this goal, the reserve banks offer to purchase such paper at a stated rate of discount from banks, dealers, and other holders. The act is "involuntary" on the part of the reserve bank in that sellers take the initiative in offering such paper for discount or sale. Sometimes such purchases are made with a

¹ Since March 27, 1942 the Federal Reserve Banks have been permitted to hold a maximum of \$5,000,000,000 in United States obligations purchased directly from the Treasury.

repurchase agreement, which allows the seller to buy back the paper within fifteen days at the same rate of discount. Member and nonmember banks alike take advantage of the involuntary open market purchases of the reserve banks. Especially was this true during the war when banks regularly replenished their depleted reserve balances by selling Treasury bills directly to the reserve banks. This was of advantage in that it did not require the banks to go in debt to the Federal Reserve Bank in order to obtain the needed cash.

The manner in which open-market dealings of the reserve banks affect member bank reserves may easily be seen. Let us assume that a reserve bank purchases \$1,000,000 worth of government obligations in the bond market and trace the effects of such a transaction. If the sellers are member banks disposing of part of their holdings of bonds, the transaction is quite simple. The reserve bank will tender drafts against itself in payment. The member banks will present the drafts for payment and receive credit on their reserve accounts. If the sellers are nonmember banks, they will likewise receive drafts against the reserve bank in payment and deposit them for credit with city correspondents which are member banks. The nonmember banks' reserves will be increased by the amount of the drafts, and the member banks receiving them for collection will again receive the proceeds in credit on their reserve accounts. If the sellers are individuals, their actions will be similar to those of nonmember banks. Eventually member banks will receive the drafts for collection and obtain credit for the proceeds on their reserve accounts. Thus, we see that the reserve accounts of member banks may be increased at any time by the purchase of obligations in the open market.

A sale of securities in the open market has just the reverse effect. Let us suppose that the reserve banks sell securities to buyers in the open market who tender checks on member banks in payment. These checks will be collected by the reserve bank to which they are issued by a deduction from the member's reserve account. It makes no difference whether the purchaser is an individual, a nonmember, or a member bank. In the end, settlement is made by deduction from the reserve accounts of member banks.

It is easy to see the importance of the open-market transactions of the reserve banks. By the purchase of securities, the reserve banks can take the initiative in increasing member bank reserves.

Further, so long as they have securities which may be sold, the reserve banks may reduce the reserve accounts of members. The full significance of this fact must await later discussion of Federal Reserve policy.

Direct loans to industry. It was the original intention of the framers of the Federal Reserve Act that the Federal Reserve Banks should be bankers' banks. Their dealings with the general public were to be limited to the purchase and sale of bills of exchange and certain types of securities in the open market. The failures of 1931 and 1932 so shattered public confidence in the solvency of banks that bankers generally attempted to increase the liquidity of their assets by loan reductions. Businessmen complained that they were unable to receive accommodation at their banks necessary to finance current trade. Because of the general belief that banks had persistently refused to make loans on good security to solvent businessmen, provision has been made for a limited amount of direct advances by the reserve banks. To accomplish this the following amendments were made to the Federal Reserve Act:

1. The Board of Governors, upon a vote of five members, is permitted to authorize any Federal Reserve Bank to discount, for individual firms, paper technically eligible for rediscount and satisfactorily secured. The borrowing firm must prove its inability to obtain adequate credit elsewhere. This amendment, made on July 21, 1932, was simply designed to make available short-term business credit when the commercial banks failed to carry out their customary function.

2. Under regulations of the Board of Governors, the Federal Reserve Banks are allowed to make advances to individuals and firms (including banks) for periods of not over 90 days on the security of direct obligations of the United States. It is under the provisions of this amendment of March 9, 1933, that nonmember banks are able to borrow at the reserve banks.

3. Section 13b, added June 19, 1934, provides that, under authority of the Board, reserve banks may make loans to established industrial or commercial firms unable to obtain necessary credit on a reasonable basis elsewhere. Such loans are for working capital purposes and may extend for a period of not over five years. The reserve banks may also purchase or agree to purchase

such obligations from any financial institution that agrees to assume at least 20 per cent of any loss which may arise. The gross amount of such loans is limited to the combined surpluses of the reserve banks on July 1, 1934, plus any amount not exceeding \$139,299,557 which might be paid over to the reserve banks by the Secretary of the Treasury.

The actual volume of Federal Reserve Bank credit that has been created as a result of loans made under the authority of the above amendments has been small and of little economic importance.

REDISCOUNTING AND BORROWING BY MEMBER BANKS

The primary interest of the sponsors of the Federal Reserve Act in 1913 was to provide the elasticity of currency and credit needed to prevent the periodic crises that plagued the banking and business world under the old national banking system. The Federal Reserve System was established to give that elasticity and to enable banks to carry on their loan functions efficiently and smoothly. It is not surprising, therefore, that the original act was concerned with enabling member banks to discount short-term agricultural and commercial paper for conversion into cash at the Federal Reserve Banks. Therefore, the Federal Reserve Act established strict rules governing the eligibility of paper for rediscount by member banks. These rules were established with a double purpose. First, they were designed to provide liquidity of commercial bank loans. Second, they were intended to discourage speculative and capital loans, which had proved troublesome in the past and which were contrary to accepted banking theory that loans should be self-liquidating in nature. It was believed that Federal Reserve Bank credit would automatically respond to the varying requirements of business, expanding when commercial lending caused member banks to need additional cash and contracting again when the need was over. The only concession made in the original act was the privilege granted member banks to rediscount notes of borrowers to finance trading in or carrying United States obligations. This exception later provided the gap through which great volumes of "war paper" found its way into the reserve banks during World War I.

Experience soon indicated that the rediscount of customers' paper was not entirely convenient for member banks needing ad-

ditional cash reserves for short periods only. Consequently, in 1916, member banks were authorized to offer their own promissory notes, secured by eligible paper or by United States bonds and notes, for discount at the Federal Reserve Banks. So long as banks were not heavily fortified with United States obligations, this rule did not lessen the importance of the technical rules of eligibility. It was not until the middle 1930's that eligibility rules lost most if not all of their significance.

Who may rediscount. One of the privileges of membership in the Federal Reserve System is the right of a bank to replenish its reserves by rediscounting and borrowing at the reserve bank. Ordinarily nonmember banks are denied this privilege, although in 1933 they were given a one-year emergency privilege to obtain advances from the Federal Reserve Banks, and since 1939 have been allowed to borrow there on government obligations.

Application for rediscount. Each application for the rediscount of paper must be accompanied by a formal certificate in which the member states its belief that the paper is eligible, that it has not been acquired from a nonmember bank, and in case of state banks, that the borrower whose paper is offered is not and will not be allowed to become indebted to the bank in excess of an amount that such state bank might lend if it were a national bank.

When a member bank has made application for the rediscount of paper, the responsibility rests upon the reserve bank to determine whether or not the paper is actually eligible under the law and the regulations of the Board. Moreover, under the law, the reserve bank must decide whether or not the member's application is "acceptable." This decision is made in the light of:

1. The soundness of the paper itself, which reflects to some extent the value of the member bank's indorsement.
2. The desirability of extending more credit to this particular bank—that is, whether it is using more than its fair share of rediscount facilities.
3. The general business conditions and the probable effect of advances to this bank on general credit conditions. A bank thought to be unduly supporting a speculative movement might be refused accommodation.

Eligible paper. "Eligible paper" may be used as a source of funds through either rediscount or pledge as security for the mem-

ber bank's own note. Although each reserve bank has the responsibility of determining whether or not paper tendered for rediscount is actually eligible, the basis for that determination is laid down in the law and in the regulations and rulings of the Board of Governors.

The eligibility of paper for rediscount is to be judged by two standards. First is the question of maturity. Only short-term paper is eligible. Commercial paper, when offered for rediscount, may not be over three months from maturity. Since farmers normally require seasonal loans of longer duration, agricultural paper is eligible for rediscount if its maturity date is not more than nine months distant. The second test of eligibility is the purpose that gives rise to the paper. Paper issued to finance the production, purchase, storage, or marketing of goods is eligible. Thus, obligations of businessmen in the form of notes, drafts, and bills of exchange to obtain working capital are eligible. The same is true of paper issued to carry or trade in obligations of the United States Government. On the other hand, the paper is ineligible for rediscount if the borrowers use their funds to speculate or trade in securities (other than those of the United States) or to speculate in commodities. Likewise, paper of borrowers purchasing fixed assets is ineligible. The notes of speculators on the grain or securities markets, and of farmers using the borrowed funds to pay for land or barns, are ineligible for rediscount.²

Except for negotiable paper secured by United States obligations and issued to finance trading in and the carrying of such securities, eligibility rules permit the rediscount only of short-term self-liquidating agricultural and commercial paper. The purpose behind these rules was to encourage member banks to make more loans on paper of this sort and to insure the liquidity and solvency of the Federal Reserve Banks.³ The need for ultimate solvency of banks in general and of the Federal Reserve Banks in particular is obvious. There is also need for liquidity.

Liquidity has two distinct values in banking assets. Liquid loans of a short-time nature are more likely to be sound loans

² The Federal Reserve Act lays down specific rules governing eligibility. For the interpretation of these rules, and regulations governing their application, see Regulation A of the Board of Governors of the Federal Reserve System.

³ For a particularly partisan defense of strict adherence to the rule of self-liquidation as a test for eligibility, see Willis, H. Parker, *The Theory and Practice of Central Banking*, New York, Harper & Bros., 1936, pp. 131, *et seq.*

than are nonliquid loans. There is less room for errors in judgment in making a short-time loan than a long-time one. Second, liquidity of a bank, or ability to collect its loans, is necessary if a bank is to meet its obligation to pay out cash at all times. The reserve banks are no exception. They require liquidity of their assets, in part, in order that they may be able to accommodate member banks other than the ones already borrowing. Of course, this is unimportant in times when the unused reserves are very high. However, if loans made by the reserve banks were not liquid and were not repaid, there would be a gradual tendency for the advances of reserve banks to rise as first one and then another bank was accommodated, until unused reserves had disappeared altogether. Moreover, a need for liquidity arises out of the possibility that the reserves of the reserve banks themselves may be depleted by shipments of gold abroad. If such movements of gold brought the reserves of the reserve banks down to the legal minimum, it would be necessary for the volume of accommodation to member banks to be reduced in order to restore conditions necessary to elasticity.

In actual practice, much of the paper discounted by the Federal Reserve Banks for members has not been strictly self-liquidating. Not only have the eligibility rules permitted the rediscount of notes of continuous borrowers having a satisfactory current ratio, but also member banks have in many instances made use of their collateral notes secured by government obligations. Furthermore, the Banking Act of 1935 granted member banks the privilege of borrowing on the security of noneligible paper. All this raises the question as to the effect of such relaxation and by-passing of the rules of eligibility on the liquidity of the Federal Reserve Banks. So far as the paper rediscounted is concerned, Federal Reserve Bank liquidity naturally requires short maturity and soundness. The type of the transaction out of which the paper arises, however, is of secondary importance. Short maturity is necessary in order that the reserve bank may have an opportunity to demand a reduction in discounts at will within a reasonably short period of time. But, in addition to short maturity of the paper offered, true liquidity on the part of a reserve bank arises from its ability to require member banks to reduce discounts (or borrowings) at reasonably frequent intervals. It is entirely possible for the reserve banks to make advances to member banks

on strictly self-liquidating paper continuously and in such amounts that it would be impossible to compel them to liquidate their borrowings or rediscounts without precipitating a business panic. On the other hand, advances made by reserve banks to member banks to meet their seasonal or incidental needs may have a high degree of liquidity, regardless of the nature of the paper offered for rediscounts or security for advances.

Liquidity of the reserve banks depends not so much upon the origin of paper rediscounted, assuming it is sound, as upon the temporary character of the advances to members. If this line of reasoning is correct, the liquidity of the Federal Reserve System is more adequately provided for in the unwritten rule that members are not to remain in debt permanently than in the rules of eligibility.

Member bank borrowing on collateral notes. In addition to rediscounting eligible paper, member banks are permitted to borrow from the reserve banks on their own notes. If commercial or agricultural paper eligible for rediscount or purchase by the reserve bank is offered as collateral, such advances may run for a period not exceeding ninety days. In addition to the use of eligible paper as collateral, member banks may borrow up to fifteen days on the collateral of Federal intermediate credit bank debentures, and Federal Farm Mortgage Corporation bonds and Home Owners' Loan Corporation bonds when guaranteed both as to principal and interest by the United States. Moreover, since nonmember banks were extended the privilege of borrowing at par on United States government obligations for periods of up to ninety days, member banks are given a similar privilege.

The right of member banks to borrow on their collateral notes enables banks temporarily in need of funds to build up their reserves without rediscounting customers' paper. This method may be favored because a bank may be reluctant to allow its customers to know it has rediscounted their paper; furthermore, rediscounted paper with a definite maturity date is a less flexible means of obtaining funds than the collateral note. The greater convenience of the collateral note secured by government obligations has made it the main reliance of banks seeking advances from the Federal Reserve Banks.

During the banking troubles of 1932, member banks were frequently without sufficient amounts of eligible paper and United

States obligations to enable them to obtain needed assistance from the Federal Reserve Banks. Therefore, Section 10a was added to the Federal Reserve Act to allow member banks to combine in groups of five or more and borrow jointly on the basis of suitable collateral deposited with a trustee. Yet another amendment allowed the reserve banks, in exceptional circumstances, to make secured advances directly to individual member banks. This emergency privilege, however, expired in March 1935. In its place, Section 10b was added to the Federal Reserve Act in June 1935.

Borrowing on noneligible paper under Section 10b. This section permits a reserve bank, under regulations of the Board of Governors of the Federal Reserve System, to make advances to member banks upon their demand or time notes having maturities of not over four months, secured to the satisfaction of the Federal Reserve Bank. Such notes are to bear interest of not less than one-half of 1 per cent above the highest prevailing rediscount rate. Since the cost of this type of advance is greater than the cost of rediscounting or borrowing upon United States bonds or eligible paper, it will be used only in case of necessity. It should remove completely the necessity for group borrowing as permitted by Section 10a.

The regulation of the Board of Governors specifically names the types of paper eligible as collateral for advances under this section.⁴ In explaining its choice of eligible collateral which may be used by member banks borrowing under Section 10b, the Board says: "Experience has demonstrated that the solvency of banks is better safeguarded by careful regard to the quality of the paper that they acquire than by strict observance of the form that this paper takes. Strict eligibility requirements in the past did not

⁴ These types comprise the following:

1. Paper otherwise eligible but with a maturity greater than that permitted under the rules of eligibility for rediscount.
2. Investment securities.
3. Paper arising from security loans made subject to the provisions of Regulation U.
4. Mortgages insured under Titles I and II of the National Housing Act.
5. Other approved real estate mortgage loans.
6. Obligations of the Federal home loan banks and the Federal farm credit institutions, regardless of maturities.
7. General obligations of any state or political subdivision thereof.
8. Installment sale paper.
9. Any other assets that are satisfactory to the Federal Reserve Bank.

save the banking system from collapse. Greater emphasis on soundness and less emphasis on form is, therefore, a sound banking principle."

The Board's interpretation of Section 10b very largely nullifies the elaborate rules governing eligibility requirements for rediscounts, since, by the payment of a slightly increased rate, a member is assured of accommodation without regard to whether or not it possesses eligible paper. If advances to members under this section are intelligently made for strictly short-time needs, they will be beneficial. It would, indeed, be most unfortunate, however, if they should become the means of permanently shifting unliquid assets from member bank portfolios to those of the reserve banks.

Marginal collateral. Reserve banks may and do require marginal collateral against advances to member banks. This is likely to occur when a member is borrowing excessively or when the paper offered is not entirely satisfactory. The extra collateral offered may or may not be, in itself, eligible for rediscount.

The Board of Governors attempts to minimize the practice of requiring additional collateral. When reserve banks require more than a 25 per cent margin of excess collateral on rediscounts or advances to member banks (except on the collateral of United States obligations), they must explain the reasons in a special report to the Board. Moreover, whenever a member bank offers United States obligations, direct or guaranteed, as collateral for loans at a reserve bank and receives less than the face value, special explanation must be made by the reserve bank to the Board. Thus, the previously unwritten policy of the Federal Reserve System of making loans on government securities at par, regardless of the market price, is now formally recognized by the Board in its regulations.⁵

Collection of advances to members. When a member has borrowed on its collateral note, the reserve bank charges the amount of the face of the note to the bank's account on the due date. When paper has been rediscounted, it is returned to the member bank at a suitable time before it is due and charged to the member's reserve account on the day it is due. If the paper is payable elsewhere than at the location of the member, the reserve bank will, if instructed, send the paper through its collection sys-

⁵ Regulation A, Section 3(d), (e).

tem for collection. On the due date the amount is charged to the member's reserve account, and when the proceeds are received by the reserve bank, they are again credited to the member's account.

FEDERAL RESERVE BANK MANAGEMENT

The boards of directors of the Federal Reserve Banks. Each of the twelve Federal Reserve Banks is directly under the management of a board of nine directors. These directors are divided into three classes. Class *A* directors, three in number, are representatives of the member banks of the district and are chosen from the ranks of the bankers themselves. Class *B* directors, also three in number, are persons actively engaged in business other than banking. Both Class *A* and Class *B* directors are elected by the member banks. For purposes of such election, the Board of Governors classifies member banks of each district into three groups according to size (large banks, middle-sized banks, and small banks), and the banks of each group elect one Class *A* and one Class *B* director. Any member bank may nominate a candidate for each class. Each member has one vote, with the limitation that only one member may have the privilege of nominating and voting for directors when two or more member banks in one Federal Reserve district are affiliated with the same holding company. The remaining three of the nine directors are appointed by the Board of Governors of the Federal Reserve System and are known as Class *C* directors. One director, who must be a person of "tested banking experience," is designated as Federal Reserve agent and chairman of the board. He is the official representative of the Board of Governors in all deliberations on the affairs of the reserve bank. Another director from Class *C* is named deputy chairman. The Federal Reserve agent appoints such assistants as seem necessary.

The chief executive officer, responsible for the actual administration of the affairs of a reserve bank, is the president. The president and vice-president are appointed by the board of directors of a reserve bank for a term of five years, subject to the approval of the Board of Governors. Previous to the Banking Act of 1935, the board of directors appointed an executive officer commonly known as the governor of the bank. The new arrangement strengthens the hand of the central authority, the Board of Governors, in its management of each reserve bank, since it may indicate

its approval or disapproval of a president of a particular reserve bank every five years.

Management of Federal Reserve Bank branches. The Board of Governors is authorized to permit or require reserve banks to establish branches within their respective districts, each branch to be managed by a board of directors of not more than seven nor less than three. A majority of one is appointed by the reserve bank and the remainder by the Board of Governors. Under this authority 24 Federal Reserve Bank branches have been established.

The Board of Governors. Under the 1935 amendments to the Federal Reserve Act, the chief executive body of the Federal Reserve System is now called the Board of Governors of the Federal Reserve System, instead of the Federal Reserve Board as it was previously designated. Its membership is made up of seven appointees of the President, who are approved by the Senate. Not more than one member may be appointed from any one district, and "the President shall have due regard to a fair representation of the financial, agricultural, and commercial interests and geographical divisions of the country." Appointments hold for fourteen years, and the terms are so arranged that the term of only one member will expire during any two-year period. Members are not eligible to reappointment, nor may they resign their positions before the end of their terms and accept any position with a member bank within two years. Two members are appointed as chairman and vice-chairman, respectively, for four-year periods. The one designated as chairman is the chief executive officer.

The new organization of the Board became effective February 1, 1936. Besides involving a reduction in numbers from eight to seven, it sought to divorce the Board of Governors from the fiscal policies of the Federal Government by depriving the Secretary of the Treasury and the Comptroller of the Currency of their membership, which they previously held *ex officio*. This change had long been desired by those who felt that credit policies of the banking system should not be made subservient to the fiscal needs of the government or to the political necessities of the existing administration. It seems doubtful that it will ever be possible to prevent credit policies of the Board of Governors from being influenced by the government's needs in time of war or other emergency, if indeed it would be desirable to do so. But the change

makes for a desirable enhancement of independence of the Board of Governors.

Powers of the Board of Governors. Many of the powers of the Board of Governors have been mentioned in connection with the particular banking functions to which they apply. Although it is unnecessary to repeat all of these powers here, certain powers pertaining to the general management of the Federal Reserve System must be considered:

1. Each Federal Reserve Bank has the power to establish rates of discount on each class of paper, with "a view of accommodating commerce and business." Such rates are established every 14 days, or oftener if the Board of Governors desires it, and are subject "to review and determination" of the Board. The requirement that rediscount rates be set every 14 days, or oftener, was added in 1935 to increase the authority of the Board over rediscount rates. Previously the Board had no real power to compel reserve banks to change their rates. Now, since new rates must be set at least every two weeks, the Board is in a position to control them by virtue of its veto power.

2. The Board of Governors may, in its discretion, examine the affairs of each reserve bank and member bank. It shall publish weekly statements of the condition of each reserve bank.

3. By a vote of five members, the Board may require Federal Reserve Banks to rediscount for one another.

4. The Board of Governors may suspend, for a period not to exceed thirty days, plus renewals for fifteen days, any of the reserve requirements specified in the Federal Reserve Act, provided a graduated tax is placed upon the deficiencies allowed. This power includes, obviously, authority to suspend the reserve requirements for members as well as for the reserve banks. However, the power to suspend reserve requirements of member banks has never been used, and it is unlikely that any need for such suspension will arise. Member banks in general may be relieved of reserve shortage either by rediscounting or by obtaining other direct advances from the reserve banks or through the expansion of open-market purchases of United States obligations by the reserve banks. The plight of particular members who find themselves short of reserve, with no assets on which to obtain more, is not likely to provoke use of such sweeping powers as a general

suspension of member bank reserve requirements, particularly under the liberalized rediscounting and borrowing provisions of the law. The Board may vary legal reserve requirements for member banks between a lower limit fixed by the statutory amount and twice that amount.

The power to suspend reserve requirements of the reserve banks is qualified by the statutory requirement that, in case the gold certificate reserve held against Federal Reserve notes falls below 25 per cent, the Board shall establish a graduated tax. This tax shall be 1 per cent per annum upon such deficiency so long as reserves are not less than 20 per cent. Below this figure, each additional deficiency of $2\frac{1}{2}$ per cent bears an extra tax of not less than $1\frac{1}{2}$ per cent. This tax is paid by the reserve bank but is passed on to members by being added to the rates charged members for rediscounts and advances.⁶

5. The Board may suspend or remove any officer or director of any Federal Reserve Bank and may require reserve banks to write off doubtful or worthless assets. Further, it may suspend, for violation of the law, the operations of any reserve bank.

6. The Board is required to make an annual report to Congress. Under the amendments of the 1935 act, this report must include a full account of its actions and those of the Open Market Committee on all questions relating to open-market and credit policies.

The Open-Market Committee. The Open-Market Committee consists of twelve members, seven of whom are members of the Board of Governors. The other five are chosen by the reserve banks in such a manner that one represents the reserve bank of New York, one the reserve banks of Boston, Philadelphia, and Richmond, one the reserve banks of Chicago and Cleveland, one the reserve banks of St. Louis, Atlanta, and Dallas, and one the reserve banks of Minneapolis, Kansas City, and San Francisco.

It is evident that the Board of Governors may, if it acts as a body, completely dominate the actions of the Committee. Since it is unlikely that such unity of action will ever materialize, the representatives of the reserve banks may be expected to play an important part in the Committee's decisions. The 1935 act puts

⁶ This graduated tax is not to apply to deficiencies in reserves arising from an expansion in open-market purchases of bonds that might occur under Section 43 of the act approved May 12, 1933 (the inflation rider of the Agricultural Adjustment Act).

the Open-Market Committee absolutely in control of the open-market operations of the reserve banks, since none "shall engage or decline to engage in open-market operations under section fourteen of this act except in accordance with the direction of and regulations adopted by the Committee." The actions of the Committee are to be "governed with a view to accommodating commerce and business and with regard to their bearing upon the general credit situation of the country."

The Federal Advisory Council. The board of directors of each Federal Reserve Bank annually chooses one representative for membership on the Federal Advisory Council. This Council meets in Washington four times a year, or oftener, at its own option or upon the call of the Board of Governors. It has the power to confer with the Board on general business conditions and to advise the Board on general matters of policy. Since the Council is without any real authority, it is impossible to measure its effectiveness, but its membership contains some of the best-informed and most experienced bankers in the respective districts represented, and its advice must, therefore, be of considerable value to the Board.

STATE BANK MEMBERSHIP

When the Federal Reserve System was organized, national banks were required, on penalty of loss of charter, to become members and subscribe to stock in the Federal Reserve Banks. State banks, however, were not subject to this compulsion, and they quite generally refrained from joining. As late as December 31, 1916, only 37 state banks were reported as members.

In contrast to the modest growth of state bank membership in the early years of the Federal Reserve System, state bank members reached 1,927 at the end of 1948. To be sure, more than 7,200 commercial banks operating under state charters still remained outside the system. But the 26 per cent of the state banks that were Federal Reserve members accounted for 65 per cent of the deposits of all state commercial banks.

Requirements for state bank membership. To become members of the Federal Reserve System, state banks must meet two requirements. First, under an amendment to the Federal Reserve Act approved on July 15, 1952, a state bank applying for membership must satisfy the Board of Governors of the Federal Reserve

System that its capital and surplus are adequate in relation to its assets and its deposit liabilities. But when the applicant for membership does not have capital stock and surplus equal to that required to establish a national bank in the same location, the bank must be approved for deposit insurance under the Federal Deposit Insurance Act. Furthermore, a state member bank may not reduce its capital stock without the prior consent of the Board.

The second requirement of membership is to satisfy the Board of Governors of the Federal Reserve System that the bank is entitled to membership. The Board's powers are broad in this respect. In passing on applications for membership it must "consider the financial condition of the applying bank, the general character of its management, and whether or not the corporate powers exercised by the bank are consistent with the purposes of the Federal Reserve Act." State banks applying for membership must obtain the approval of the Board in order to retain any branches established after February 25, 1927 and located outside the place where the parent bank is situated.

Advantages of state bank membership. Two main reasons have been advanced for urging or even compelling state banks to become members of the Federal Reserve System. First, the banks themselves are benefited by having access to the lending power of the reserve banks in time of temporary seasonal need or emergency need for funds. Second, the banking system as a whole, it is claimed, will be strengthened by bringing the state banks under the control of the reserve banks. Thus, a degree of uniformity of regulation and control is made possible in spite of the diversity resulting from Federal and state charters.

In respect to the first argument, one must admit the usefulness of membership to the more active commercial banks. Accommodation of commercial customers often requires an extension of credit that results in a deficiency of reserves. Unless the bank carries ample secondary reserves other than rediscountable paper, reserve bank accommodation is important. In the past, membership for banks without a large amount of active commercial business was of little practical importance except for its prestige value.

Such banks in normal times had little occasion to rediscount, since they were in a position to make new loans only as unused

reserves appeared. Their deposits were not of a volatile nature and therefore not likely to cause a heavy demand for cash on short notice. In fact, small members frequently made no use of their rediscount privileges. The doubtful nature of membership advantages was accentuated by the fact that such banks had little paper eligible for rediscount or usable as collateral for direct borrowing.

During the depression years of the 1930's the situation changed to some extent. The danger of depositors' runs made the rediscount privilege more vital as bank failures shattered public confidence. This reason for membership has been largely lost, however, with the advent of deposit insurance. The 1935 banking act permits borrowing by member banks on collateral notes satisfactorily secured. This practice renders membership more useful than before because it makes the rediscount services of the reserve bank available to any member with sound assets, whether or not these be technically "eligible." On the other hand, the privilege now given to nonmember banks of borrowing at the reserve banks greatly reduces the importance of belonging to the Federal Reserve System.

The second argument for membership is a more doubtful one. There is little evidence that the members of the Federal Reserve System, as such, have been more carefully regulated than the nonmember banks. State bank members in the past have not been subjected to any careful scrutiny by the reserve bank authorities. Instead, the state bank examinations were normally accepted as sufficient to satisfy the reserve bank requirements so long as nothing radically wrong appeared. In 1934 the Board announced that thereafter the examination of state member banks would be made by special examiners working for the reserve banks, approved by the Board of Governors. These examiners, working under the direction of the Federal Reserve agent, examine each state member bank at least once each calendar year, either independently or jointly with state banking authorities.

Objections to membership. In spite of the modifications of the rules governing membership mentioned above, state banks have quite generally refrained from joining the system. This tendency has been particularly true of the banks in smaller towns. The objections to membership voiced by such banks may be summarized as follows:

1. In many instances conformance with the minimum capital requirements is difficult.
2. Member banks must necessarily participate in par collection and refrain from making exchange charges on checks presented through the mails. This regulation is important to many non-member banks. Forty-seven nonpar banks in one Federal Reserve district reported receipts from exchange charges varying from \$125 to \$500 per month.
3. Before 1933 nonmember banks carried their legal reserve balances, in part at least, as deposits with their city correspondents, who paid interest on such balances. The reserve banks have never paid interest on member bank balances deposited with them. Under the 1933 banking act all member banks are prohibited from paying interest on demand deposits. Since city correspondents are normally members, the objection that membership results in a loss of interest on reserve balances has lost its validity.
4. Members must invest an amount equal to 3 per cent of their capital and surplus in the stock of the reserve bank. This investment bears only 6 per cent cumulative dividends, and banks sometimes complain of the modest size of this return.

In the face of these objections to membership, the advantages seem unimportant to many of the smaller banks. They quite properly hold that the large city correspondent can normally furnish exactly as good service in the way of rediscounting, lending, and the collection of checks at par as can the reserve banks. Besides, a city correspondent can hardly be dispensed with merely because a bank becomes a member of the Federal Reserve System. Participation in the call loan market or the sale of foreign exchange drafts, for example, requires city correspondent relations. Even the execution of member banks' orders for securities and commercial paper seems not to fall within the scope of the reserve banks' authority and requires the services of city correspondents.⁹

Questions for Study

1. What are the avenues through which the Federal Reserve Banks come in contact with the money market?

⁹ Willis, H. Parker, and Steiner, William H., *Federal Reserve Banking Practice*, New York, D. Appleton-Century Co., 1926, pp. 102-104. This encyclopedic work on the Federal Reserve System makes available a vast amount of detailed information on early reserve bank operations.

2. When a member bank discounts at the Federal Reserve Bank what are the effects on:
 - a) The member's legal reserve position?
 - b) The member's liabilities?
 - c) The assets of the Federal Reserve Bank?
3. What is meant by "voluntary" open market purchases? What are "involuntary" purchases?
4. When the reserve banks, through the Open Market Committee, purchase U.S. securities, what are the effects on:
 - a) Reserves of member banks.
 - b) Liabilities of the reserve banks.
5. What are the results of security sales by the Federal Reserve Banks?
6. Why were the reserve banks given authority to make direct loans to industry?
7. Early expectations were that rediscounting of eligible paper would be the main reliance of member banks desiring to improve their reserve position:
 - a) Why were the rules of eligibility set up as they were?
 - b) Why did it develop that the technical rules of eligibility had little influence on the loan practices of member banks?
 - c) When and why did the technical rules of eligibility lose most of their significance?
8. What is Section 10b? How does its introduction:
 - a) Affect the importance of eligibility?
 - b) Improve the usefulness of the Federal Reserve System to member banks?
9. Upon what considerations do the liquidity and solvency of the Federal Reserve Banks rest?
10. What purpose is served by the method of choosing directors for the Federal Reserve Banks?
11. Examine the partial list of powers of the Board of Governors.
 - a) In view of the modest size of member-bank borrowings at the Federal Reserve Banks, does it seem that in respect to credit policy, the Open Market Committee is more important than the Board of Governors?
 - b) How important do you think the power to suspend reserve requirements to be?
12. What considerations are involved in determining whether or not a state bank should apply for membership in the Federal Reserve System?

Contrasting Foreign Banking Systems

BECAUSE THE ECONOMIC STRUCTURES OF CANADA, ENGLAND, FRANCE, and Germany in many ways resemble our own, we find many similarities between the banking systems of the United States and those countries. This fact is not surprising, since common problems often tend to be met by similar solutions. Moreover, our own banking system developed under foreign influences. Early American bankers frequently had English and European backgrounds, and the proposed reforms of the old national banking system, which culminated in the passage of the Federal Reserve Act, were based upon a careful study of the operation of foreign banking systems. Nevertheless, the American banking system and banking practices differ in a great many respects from foreign systems and foreign banking practices. Foreign methods of chartering differ materially from the American, as do also the degrees of concentration in control, the relations of banks to industrial enterprise, and the nature of the operations of central banks. We can broaden our understanding of banking problems, therefore, if we examine briefly the banking systems of a few foreign countries.

THE CANADIAN BANKING SYSTEM

The chartered banks. Ten chartered banks make up the commercial banking system of Canada. Because the Canadian banking law permits the establishment of branches (both at home and abroad), and because a large minimum capital requirement of \$500,000 has been adopted, Canada has built up a banking system consisting of a few large banks rather than a host of smaller ones. Twenty-eight banks were originally reincorporated under the

Bank Act of 1871. The number rose to a maximum of 41 in 1886 and has declined, through failures and mergers, to the present ten.¹ The charters issued under the Bank Act have a life of only ten years, giving occasion for a regular revision of the law at the end of every decade. This plan has the obvious advantage of bringing the banking law before the public for scrutiny at regular intervals, a practice in clear contrast with the sporadic efforts at amending the banking laws of the United States.

The size and the availability of numerous branches of the Canadian banks enable businessmen to obtain adequate accommodation from a single bank instead of compelling them to borrow from several banks, as often happens in the United States. Banks therefore become intimately acquainted with the borrower's affairs and can more safely extend him needed assistance than might otherwise be possible. Moreover, the law (Sections 88 and 89) permits banks to obtain a first lien on that part of the borrower's goods which is listed as security when the loans are made. This privilege exists in the case of loans to dealers in the products of the extractive industries (agriculture, forestry, mining, and the like), loans to farmers on threshed grain, and loans to manufacturers. To protect the other creditors of businessmen who borrow from banks, loans made under Sections 88 and 89 must be registered in the office of the Assistant Receiver General of the province of the borrower. The liens of banks are superior to those of unpaid vendors whose claims were unknown to the bank when the loans were made. Claims to goods in process are not affected by a change in form, and when goods originally subject to the lien are sold, any substitute goods bought by the borrower come under the lien. If the borrower defaults on a bank loan or embarks upon a policy which displeases the banker, the latter may take possession of the goods. The arrangement is mutually advantageous to bank and borrower. The bank receives the same degree of protection as that afforded by warehouse receipts; the borrower, because of the superior security offered, can obtain more assistance from his bank than would be possible if he were not able to give the bank a preferential lien. At the same time he is allowed a flexibility in the use of his goods and in the disposal of them that would be impossible to obtain through the use of

¹ Willis, H. Parker, and Beckhart, B. H., eds., *Foreign Banking Systems*, New York, Henry Holt & Co., 1930, pp. 298 and 326.

warehouse receipts. To simplify the procedure, the 1944 revision of the Bank Act provides for a form of blanket security that eliminates the necessity existing under the old rule for the lending bank to be notified of every change in collateral.

Canadian chartered banks, in general, confine their lending to financing the short-term credit needs of agriculture, commerce and industry. But Canadian farmers, like those of the United States, need longer-term funds with which to purchase equipment necessary in modern agriculture. Therefore, since 1944, the chartered banks have been permitted to make "medium-term" loans for farm improvement under a partial guarantee by the Canadian Government authorized by the Farm Improvement Loan Act. Under this Act, the Minister of Finance may guarantee a bank against losses to the amount of 10 per cent of the total farm improvement loans that the bank holds. Such loans are secured by a lien on the equipment purchased, and when for over \$2,000, may have additional security of a real estate mortgage. The maximum rate of interest allowed on such loans is 5 per cent.

Banks are prohibited from making loans on any bank stock or, except for farm improvement, upon real estate security. The prohibition of loans upon real estate has undoubtedly exercised a wholesome influence upon the assets of the chartered banks, but at the same time it has prevented farmers from having access to banks for financing purchases of land and for making improvements. In another respect, however, the Canadian system has been of distinct benefit to agricultural regions. The branch banks collect deposits in the more populous areas, where funds are plentiful, and lend them in the prairie provinces, where capital is naturally scarce. The Canadian farmers in the prairie provinces obtain loans at rates substantially below those paid by the farmers of the Dakotas.² On the other hand, the branch banking systems have been accused of tyrannical practices in their lending policies and of sending out young managers into rural districts to gain experience at the expense of the communities they are supposed to serve.

Note issue. Before 1935 paper money in the Dominion was limited to two types: Dominion notes and notes of chartered banks. The banks were originally granted the right to issue notes to the

² Willis and Beckhart, *op. cit.*, pp. 452-453.

amount of their paid-in capital, but this limitation became irksome as the currency needs of the country expanded. The bank note issues were largely utilized to meet the ordinary currency needs, leaving little expansion power for the seasonal needs of the agricultural districts. To meet this difficulty, permission was granted in 1908 for the issue of additional bank notes during the autumn and early winter months to an amount equal to 15 per cent of a bank's capital and surplus. Notes so issued were taxed at 5 per cent per year while outstanding.

The notes issued by each of the ten chartered banks are secured by a prior lien against the general assets of the issuing bank and by a Bank Circulation Redemption Fund contributed by the banks and held by the Minister of Finance.

Since the establishment of the new central bank, the Bank of Canada, on March 11, 1935, the right of note issue by the chartered banks has been gradually reduced. Since January 1, 1950, all such notes must be retired from circulation within Canada. For circulation outside of the Dominion banks may maintain an issue equal to not more than 10 per cent of their unimpaired capital.

Canada's need for a central bank. Until March 11, 1935, Canada had no central bank, and in this pre-central bank era the chartered banks maintained their liquidity by placing short-term or call loans in New York, which could be relied upon as a source of quick funds in time of need. Currency demands were met by an expansion of note issue, and complete freedom from any legal reserve requirements gave the banks an opportunity to make actual use of available cash reserves as needed. This whole procedure was in marked contrast with the situation in the United States before the establishment of the Federal Reserve System. Nevertheless, there arose a need for some source of added reserves, especially after the outbreak of World War I in 1914. The answer to this need was the Finance Act of 1914, which permitted the chartered banks and the Quebec savings banks, *in time of emergency*, to obtain legal tender Dominion notes by depositing approved securities with the Minister of Finance. The borrowing banks were required to pay at least 5 per cent interest on these advances.

Nine years later came the Finance Act of 1923, which permitted the Minister of Finance to make advances to the banks at rates of interest prescribed by the Treasury Board for periods up to one

year, regardless of whether or not an emergency existed. These advances were to be secured by the deposit of either approved securities or certain specified types of short-time notes and bills of exchange. Thus, there developed a variety of central bank functions in the hands of the Department of Finance. The administration of the powers granted to the Department of Finance by this law was sharply criticized. Although it possessed some of the functions of a central bank, the Department had no discernible credit policy, and it failed to raise the rate of discount on its advances of Dominion notes when such an increase would have been desirable. The resulting credit expansion set up an unfavorable international debt balance.

When called upon to redeem Dominion notes in gold for export, the Treasury found itself with a gold supply insufficient to maintain free convertibility, and for some time during 1928 and 1929, the gold standard was practically suspended in Canada owing to the refusal of the Treasury to redeem Dominion notes in gold.³ The Canadian Bankers' Association said in respect to the situation: "There exists no properly constituted body which can admit responsibility for the general supervision of credit or exchange in Canada."⁴ In 1933 a Royal Commission, appointed to study the Canadian banking and currency situation, recommended the establishment of a central bank.

The Bank of Canada. The act authorizing the creation of the Bank of Canada went into effect on July 3, 1934, but was amended June 23, 1936, and again on July 1, 1938. The Bank is under the management of a Board of Directors composed of a Governor, a Deputy Governor, and eleven directors. The capital of the bank is \$5,000,000, consisting of 100,000 shares of \$50 par value, all belonging to the Dominion Government.

The Bank may buy and sell coin, gold, and silver bullion, bankers' and trade acceptances, bills of exchange with maturities of not over 90 days, securities of the Dominion or any province with maturities of not over two years, and short-term securities of the United Kingdom and the United States. In addition, it may deal in bills of exchange and promissory notes indorsed by

³ Curtis, C. A., "Credit Control in Canada," *Papers and Proceedings of the Canadian Political Science Association*, 1931, Vol. II, pp. 101-122.

⁴ Quoted in the *Report of the Royal Commission on Banking and Currency in Canada*, 1933, p. 66. This Report contains a useful survey of the Canadian banking and monetary system as well as recommendations for improvements.

the chartered banks and may make loans to the chartered banks and Quebec savings banks on the pledge of eligible paper and securities. It may also make short-time advances to the Dominion Government and to any provincial government. The Bank acts as fiscal agent for the Canadian Government.

The Bank took over the issue of all Dominion notes except those issued under the Finance Act, which were retired on the establishment of the Bank. The Bank may also issue notes as needed by the country or by the chartered banks. The law specifies that a reserve in gold coin or bullion be maintained equal to at least 25 per cent of the Bank's notes and deposit obligations. The gold reserve requirements were suspended by the Exchange Fund Order of 1940, which authorized the transfer of the Bank's gold holdings to the Foreign Exchange Control Board.

When the Bank of Canada was established, the chartered banks were required to surrender their gold to the Bank of Canada, and under penalty of 10 per cent on the amount of any deficiency, must carry reserves equal to at least 5 per cent of their deposits in the form of notes of the Bank of Canada or deposits with it.

Regulation of banks. Before 1924, Canadian banks were free from external regulation. The failure of the Home Bank in 1923 brought a demand for some sort of supervision, and the first result of this demand was an amendment to the Bank Act in 1924, which provided for an inspector general of banks, empowered to examine the chartered banks. A certain amount of self-regulation had been imposed in 1913 by a law that required an audit of the books by a representative of the stockholders. Moreover, the Canadian Bankers' Association, incorporated in 1900, is empowered to promote the interests and efficiency of banks and bank officers and the education and training of those contemplating employment in banks. It can establish and regulate clearinghouses and is given supervision over the issue and destruction of bank notes. It is also authorized to establish by-laws, with the consent of the Treasury Board, which have the effect of law. The revision of the Bank Act in 1944 provides for annual reports by the chartered banks to the Minister of Finance. These reports include information as to earnings and expenses and other statistics for publication.

Other financial institutions. The chartered banks have not been allowed to make real estate loans, nor have they attempted to enter the field of administration of trusts. To a limited extent

they can be said to have entered the investment banking field in that they execute orders to buy and sell securities for their customers and underwrite government and municipal bonds and high-grade corporate issues.⁵ Other institutions exist, therefore, to perform the ordinary financial functions that either are not performed at all or are insufficiently performed by the chartered banks.

The Canadian investment bankers borrow from the chartered banks and trust companies to obtain funds to carry their portfolios of securities. In addition, they sometimes act as selling agents for issuing concerns where the risk of outright purchase has been too great.⁶

Real estate loans are made by two types of agencies. The first consists of mortgage loan companies, chartered under Dominion and provincial laws, which obtain funds by the receipt of deposits and the issue of debentures. In the second group are the government rural credit agencies. Ontario and Saskatchewan have province-owned, long-term rural credit institutions, but the Canadian Farm Board, organized in 1929, makes long-term loans in Alberta, New Brunswick, Nova Scotia, and Quebec. In addition, Ontario, Alberta, and Manitoba have provincial agencies designed to extend short-term agricultural credits.⁷ Trust companies engage in the performance of the ordinary trust company functions, and in addition, accept deposits and make long-term loans.

The chartered banks accept both savings and current accounts. The Dominion Government operates a postal savings system called the Post Office Savings Bank. Ontario and Manitoba operate provincial savings systems; Quebec has two large privately owned savings banks operating under provincial charters, as well as numerous co-operative people's banks.⁸

Branches of Canadian Banks. One of the marked distinctions between Canadian banks and those of the United States is the existence of wide-flung branch banking systems. Although there has been a tendency since 1930 for the number of branches to be reduced somewhat, Canada's ten banks operate more than 2,800 branches. The location of these branches may be seen by examining Table 16.

⁵ *Report of the Royal Commission on Banking and Currency in Canada*, p. 33.

⁶ *Ibid.*, p. 45.

⁷ *Ibid.*, pp. 45-46.

⁸ *Ibid.*, pp. 24-26.

TABLE 16
NUMBER OF BRANCHES OF INDIVIDUAL CANADIAN CHARTERED BANKS
AS OF DECEMBER 31, 1947 *

<i>Bank</i>	<i>Prince Edward Island</i>	<i>Nova Scotia</i>	<i>New Brun- swick</i>	<i>Quebec</i>	<i>Ontario</i>	<i>Mani- toba</i>	<i>Sas- katch- ewan</i>	<i>Alber- tia</i>	<i>British Colum- bia</i>	<i>Yukon</i>	<i>Outside Canada</i>	<i>Total</i>
Bank of Montreal	1	12	14	105	175	25	35	45	49	1	11	473
Bank of Nova Scotia	8	37	35	22	118	6	19	10	20	..	38	313
Bank of Toronto .....	..	..	..	16	121	13	24	12	13	1	..	200
Provincial Bank of Canada..	2	..	10	107	12	..	..	..	..	..	..	131
Canadian Bank of Commerce.	6	16	7	61	209	32	45	43	61	3	13	496
Royal Bank of Canada	5	61	21	72	196	52	73	49	52	..	71	659
Dominion Bank .....	..	..	1	10	93	12	5	5	4	..	2	132
Banque Canadienne Nationale	..	..	..	210	10	3	1	..	..	..	1	225
Imperial Bank of Canada ....	..	..	..	4	108	6	23	21	16	1	..	179
Bardays Bank (Canada) .....	..	..	..	1	1	..	..	..	1	..	..	3
Totals	22	126	88	615	1043	149	225	185	216	6	136	2,811

* The Canadian Year Book, 1948-1949, p. 1045.

Among the branches listed as outside of Canada, 31 were in Newfoundland, 7 were in England, 11 in the United States, 28 in British West Indies, 24 in Cuba, and 21 in Central and South America.

THE ENGLISH BANKING SYSTEM

The English banking system has four important divisions: (1) the joint stock banks; (2) the Bank of England; (3) the accepting houses; and (4) the discount market.

The joint stock banks. The bulk of the banking business directly affecting the general public is in the hands of the joint stock banks, since the volume of business of the private banks is relatively small and since the direct business of the Bank of England with the public is of a very limited sort. This joint stock monopoly did not always exist. Originally private banks were an important part of the English banking system, but they had declined in 1946 to the point where there were only three banks, with total deposits of only £15,500,000.⁹ Amalgamations reduced the number of joint stock banks in England and Wales from 104 banks with 2,203 branches in 1890 to 13 banks with 9,751 branches by the end of 1939.¹⁰ This high degree of concentration has tended not only to increase the efficiency and economy of banking service available to the public but also to bring about a greater uniformity of banking practices. One resulting uniform practice is the maintenance of a fairly fixed reserve ratio, which adds considerably to the effectiveness of the credit policies of the Bank of England. Since 1879, the joint stock banks have been permitted to operate as "limited companies"—that is, companies whose stockholders are subject to limited liability. In Scotland, banking is also in the hands of joint stock banks.

Before 1946, except for the prohibition of the issue of notes and the requirement of an annual report or statement of condition to the Registrar of Joint Stock Companies, the joint stock banks were free from legal regulation or supervision. This freedom was in marked contrast to the American practice of close supervision and regulation by public authority. But the law that nationalized

⁹ *The Economist* (London), Banking Supplement, November 16, 1946. In 1895 there were 38 private banks with assets of £85,483,700.

¹⁰ *Ibid.* Of the 13 banks, the "big five" handle about 85 per cent of the deposit business. The "big five" include Barclays Bank, the Midland Bank, Lloyds Bank, the Westminster Bank, and the National Provincial Bank.

the Bank of England on March 1, 1946, also established the right of the Bank to exercise certain controls over the joint stock banks. Specifically, the Bank, when public interest requires, may request information from and make recommendations to bankers. Furthermore, it may, if authorized by the Treasury, issue directives to secure performance of its recommendations. A banker who is the object of such a directive is entitled to a hearing by the Treasury.

The deposits of the joint stock banks. The deposits of the joint stock banks comprise two classes: (1) current accounts, corresponding to our checking accounts; and (2) deposit accounts, corresponding to our time deposits. Some idea of the relative size of the deposits of English banks and the cash reserves maintained against them may be derived from Table 17.

TABLE 17
DEPOSITS AND CASH RESERVES OF THE LONDON CLEARING BANKS *
(In millions of pounds)

<i>Years (Monthly Averages)</i>	<i>Total Deposits</i>	<i>Current Accounts</i>	<i>Deposit Accounts</i>	<i>Coin, Notes, and Balances with the Bank of England</i>	<i>Reserve Ratio</i>
1935.....	1,999	1,054	904	215	10.7%
1936.....	2,216	1,197	982	228	10.2
1937.....	2,287	1,233	1,011	235	10.2
1938.....	2,277	1,244	1,033	241	10.6
1943.....	3,677	2,455	1,222	386	10.5
1944.....	4,153	2,765	1,388	437	10.5
1945.....	4,692	3,127	1,566	492	10.4
1946.....	5,097	3,377	1,720	523	10.2
1947.....	5,650	3,690	1,959	473	8.3
1948.....	5,913	3,850	2,062	486	8.2

* *Monthly Digest of Statistics*, London, June 1949, p. 121.

It is interesting to observe that the volume of current accounts (corresponding to demand deposits of American banks) approximately tripled between 1938 and 1947, an expansion rate paralleling that of American commercial banks of the same period.

The reserve ratio shows remarkable stability, reflecting the force of custom and tradition among British banks, which unlike American banks, are entirely free of legal reserve requirements. More-

over, a cash reserve ratio of 10 per cent against all deposits is approximately the same as the cash reserves required of American banks before increased reserves requirements were instituted after 1935 to absorb the excess reserves arising from United States gold imports. An interesting change in the reported cash reserve ratios of English banks appeared in 1947, when the reserve ratio dropped to 8.3 per cent. This change, however, represented no real change in the reserve position of the English banks. Before 1947, because the banks issued published statements on different days of the week, each bank "window dressed" its cash reserve position on the statement day by shifting some of its earning assets (money at call and at short notice) to other banks and thus acquiring, for the time being, a larger balance at the Bank of England. Thus when banks found their cash position reduced below the customary level it was possible for them to keep up appearances by this scheme of mutual aid. It happened, therefore, that when the Bank of England was acting to reduce bank reserves and impose credit restraint, window dressing practices enabled the banks to postpone adjustment while clinging to the appearance of maintaining their traditional reserve ratios.¹¹ But this habit of window dressing came to an end with the adoption of a uniform date for issuing statements of condition by all banks.¹²

Loans and investments of joint stock banks. The portfolios of the joint stock banks are so arranged as to give a proper degree of liquidity. The most liquid of bank assets is money at call and lent at short notice (up to ten days). Such loans are made to the bill market, which we shall examine later, and to some extent to the stock exchange. Next in order of liquidity are bills of exchange and treasury bills that have been discounted. These bills derive their liquidity from the fact that they are of short maturities and may be allowed to "run off" at maturity (not replaced by new bills) in case the banks wish to increase their reserves. The investments of the banks are mainly long-term and short-term government issues. Finally, the banks advance funds to customers either in the form of overdrafts on current accounts or on ordinary loans. Table 18 shows the relative importance of the different elements of the joint stock banks' portfolio.

¹¹ On this point see Sayers, R. S., *Modern Banking*, Oxford, 1948, pp. 37-40.

¹² "The Changing Shape of Britain's Monetary System," *Midland Bank Review*, February 1948, p. 4.

TABLE 18

PERCENTAGE RATIO OF DIFFERENT TYPES OF ASSETS TO TOTAL DEPOSITS
OF THE LONDON CLEARING BANKS *

Year	Money at Call and Short Notice	Bills Discounted	Treasury Deposit Receipts	Investments	Advances to Customers
1929	8.6%	12.7%		15.8%	55.5%
1935	7.1	13.3		30.7	38.0
1938	6.6	12.2		27.9	42.8
1944	4.3	4.1	33.3%	28.0	18.0
1947	7.9	12.7	23.1	26.0	19.6
1948	8.0	12.6	21.7	25.0	22.3

* Compiled from the *Monthly Digest of Statistics*, London, June 1949, p. 121.

During the war money at call and short notice, bills discounted, and advances to customers declined sharply. In their place appeared a new item, "treasury deposit receipts," which were a form of 12-month Treasury obligation issued to banks. By the end of the war about £2,000 millions were outstanding and comprised a major item in British bank assets.¹³

The accepting banks. The financing of foreign trade is a vital matter in such a country as England. It is not surprising, therefore, that special institutions to assist in this financing developed at an early date. One of the most important methods of caring for the credit needs of foreign traders is through the use of the letter of credit and the banker's acceptance. In England the issuance of letters of credit and the acceptance of drafts drawn thereunder have been concentrated mainly in the hands of accepting houses that specialize in the hazardous business of evaluating the credit standing of the applicants for letters of credit. Not only do they "accept" for domestic importers, but, in order to finance exports and the shipment of goods between foreign countries, they furnish the same service for foreign clients and foreign correspondent banks. These accepting houses receive a commission for their service, varying from 1 to 2 per cent per year, depending upon the risk involved and the client's credit. The joint

¹³ Cf. "The Changing Shape of Britain's Monetary System," *Midland Bank Review*, November 1947, p. 4.

stock banks also engage to a limited extent in the accepting business.¹⁴

Although the accepting banks do not engage in commercial banking, they carry on, in addition to their acceptance business, a rather extensive variety of financial operations, which have been well described by Hartley Withers in the following quotation:¹⁵

Other functions of the merchant firms and the accepting houses are their activity in general finance and in exchange business. Both of these functions arise out of their old business as merchants, which gave them close connection both with the governments and the business communities of foreign countries. Their connection with the governments naturally led to their providing credit facilities for them, and to their handling loans and other operations which these governments might have to conduct in the London market. Many of them act as regular agents of foreign governments, making issues of bonds on their behalf, paying their coupons, and conducting amortization and other business in connection with their loans; and their connection with the general business community inevitably led to their doing a considerable exchange business with foreign countries, financing drafts on them for the purposes of travel and the innumerable other arrangements which necessitate the transfer of credit from one country to another. It should perhaps be added that the Bank of England's court of directors is largely recruited from the ranks of the accepting firms and finance houses. . . .

The future of the London accepting banks appears somewhat dimmed by the changes arising out of the war. Government trading of the war years sharply reduced the importance of acceptances in financing foreign trade. Consequently, the sterling bill may never again achieve its old popularity in the foreign exchange markets and in such a case the influence and importance of the accepting banks will be correspondingly diminished.

The discount market. The offerings of accepted bills of exchange are taken off the market by a class of specialists who are known by the general term of *bill brokers*. These specialists possess a great volume of information concerning the credit of merchants and the standing of different classes of bills of exchange, data which they use to derive an income for themselves. These specialists fall into three general classes: (1) the running brokers; (2) the retail dealers; and (3) the discount houses.¹⁶ The running

¹⁴ *Report of the Committee on Finance and Industry*, pp. 40-42. For an interesting discussion of the manner in which certain merchants of high credit standing took over the function of accepting drafts and hence were called "merchant bankers," see Withers, Hartley, *The Meaning of Money*, New York, E. P. Dutton & Co., 1916, pp. 160-161.

¹⁵ *The English Banking System*, N. M. C. 1910, p. 57.

¹⁶ Withers, Hartley, *The Meaning of Money*, Chapter VIII. Also see the *Report of the Committee on Finance and Industry*, pp. 43-45.

brokers, who are relatively unimportant, act merely as intermediaries between the sellers of bills on the one hand, and banks and other investors on the other. They work for a commission and invest no capital of their own. The retail dealer operates in substantially the same manner as do bill brokers in the American bill market. They purchase bills and resell them at a profit, but in the meantime they must borrow funds with which to carry their portfolio of bills. The discount houses, although engaging in some retail business, are primarily engaged in buying bills and holding them until maturity. The funds to carry these bills are, for the most part, obtained by borrowing on call or short notice from banks or other lenders, and from general deposits on which interest is paid at a rate somewhat above that offered by the banks. The discount houses operate on a very narrow margin of owned capital; their large volume of borrowed capital places them in an extremely vulnerable position in respect to the money market. Whenever the banks, as a whole, find it necessary to improve their cash reserves, they do so by reducing their loans to the discount houses and other money market dealers. These in turn must obtain cash immediately, and they can do so only by discounting acceptable bills with the Bank of England or by borrowing from it on the security of bills or government securities. Thus, it is mainly through the discounting of bills for the bill brokers that the Bank of England acts as a lender of last resort for the English money market.

During the 1930's the discount houses increased their dealings in short-term government bonds to fill in the gap in their portfolios arising from the shortage of commercial bills during the depression. During World War II, this practice increased. Moreover, Treasury bills largely supplanted commercial bills in the bill portfolios of the discount houses.

The number of discount houses declined from 18 to 11 between 1941 and 1944. Of those disappearing, five were merged with other houses and only two retired from business altogether.¹⁷

The Bank of England. Founded in 1694 for the purpose of making loans to the hard-pressed government, the Bank of England is closely bound up with traditions which have the force of law itself. Before March 1, 1946, it was privately owned, and

¹⁷ Cf. Higgins, Benjamin H., *Lombard Street in War and Reconstruction*, National Bureau of Economic Research, 1949.

except for the law governing its advances to the government and its note issue, and the requirement that a weekly statement be published, it was free to carry on banking functions in any way it desired.

Inaugurating the socialization policy of the Labor Party, the Bank of England Act of 1946 became effective on March 1. Under the nationalization law, the private stockholders transferred their shares to the Treasury and received in return 3 per cent government obligations. It was arranged that the annual return on the government obligations issued in exchange for the Bank's stock should be equal to the average annual dividends paid by the Bank during the 20-year period preceding March 31, 1945. These obligations may be redeemed by the Treasury on or after April 1966.¹⁸

The management of the Bank is in the hands of the Governor, a Deputy Governor, and 16 Directors, appointed by the King. The Treasury, after consultation with the Governor of the Bank, may give such directions to the Bank as appear necessary in the public interest. The purpose of nationalization lay in the belief that economic planning, of the sort visualized in the program of socialization, required some direct control over the creation of the monetary and credit tools of the economy. One may doubt whether the change is of more than symbolic importance since the Bank under private ownership was operated in the public interest and in close cooperation with the Treasury requirements.

Circulating notes of the Bank of England make up all of the currency of England and Wales, with the exception of minor token coins.¹⁹ The volume of notes that the Bank may issue is determined by a peculiar rule whose origin dates back to the Bank Act of 1844. As a means of avoiding excessive note issues, this famous Bank Act required that note issue be separated from the banking department of the Bank of England and that notes should be issued only against 100 per cent gold coverage held by the issue department. An exception was made to this rule, which allowed the Bank to issue £14,000,000 in notes against a corresponding volume

¹⁸ *Federal Reserve Bulletin*, May 1946.

¹⁹ The eight Scottish joint stock banks and certain banks in Northern Ireland have the right to issue notes backed 100 per cent by Bank of England notes and in addition a small volume of fiduciary or uncovered notes. *Report of the Committee on Finance and Industry*, p. 28.

of government securities. Furthermore, as country banks with note-issue privileges for any reason became disqualified as note-issuing banks, the Bank of England was permitted to absorb two-thirds of their former note-issue privileges. By 1921 all of the country banks had lost their right of note issue, and in 1923 the fiduciary (uncovered) issue of the Bank of England stood at £19,750,000. Under the Currency and Bank Notes Act of 1928, the Bank of England absorbed the currency (treasury notes) issued by the government during the First World War, and to accomplish this the Bank was allowed to expand its fiduciary issue to a maximum of £260,000,000.

During the emergency growing out of the outbreak of the war, the Currency and Bank Notes Act of 1939 provided for the expansion of the fiduciary issue above £260 million upon the approval of the Treasury. Any issues in excess of £260 million are subject to review by Parliament if outstanding over two years. Because practically all of the gold coin and bullion held by the issue department was transferred to the Exchange Equalization Account in September 1939, all of the present issue, with a minor exception, is fiduciary in nature. Also the Act of 1939 freed the Bank of its old obligation to buy gold at a fixed price and made provision for valuing any gold held by the bank at the current price of gold rather than at the old legal gold parity price.

The banking department of the Bank of England obtains notes for its use by depositing gold, at times when it has gold, or government securities with the issue department.

Something of the nature of the Bank of England's affairs may be seen in the statement of condition given in Table 19.

As can be seen from Table 19, the deposits of the banking department are nominally divided into three classes. "Public deposits" are the funds belonging to the various branches of the British Government. Of the "other deposits," the "bankers' deposits" are the balances of the British banks, whereas "other accounts" include balances of Dominion and foreign banks, deposits of the Indian and colonial governments, and the deposits of financial houses and private customers. The assets of the banking department (right-hand side of the balance sheet) consist of: (1) government securities, including Treasury bills acquired on the initiative of the Bank; (2) discounts and advances, which include bills brought to the Bank for discount and advances to the bill

market and to the Bank's own customers; (3) bank notes issued by the issue department but not in circulation; and (4) gold and silver coin.²⁰

TABLE 19
BANK OF ENGLAND RETURNS, JUNE 8, 1949 *

<i>Issue Department</i>			
Notes issued:		Government debt ..	£ 11,015,100
In circulation	£1,280,136,412	Other gov't securities	1,288,267,114
In banking dept. .	20,111,421	Other securities	705,521
		Coin (other than gold)	12,265
		Amount of fiduciary issue	£1,300,000,000
		Gold coin and bullion (at 172s. 3d. per oz. fine)	247,833
	£1,300,247,833		£1,300,247,833
<i>Banking Department</i>			
Capital	£ 14,553,000	Government securities	£ 360,198,941
Rest	3,484,928	Other securities: ...	44,816,692
Public deposits:	37,816,283	Discounts and advances	22,879,245
<i>Public Accounts..</i>	<i>7,962,509</i>	Securities	21,937,447
<i>H.M. Treas. Special Account ..</i>	<i>29,853,774</i>	Notes	20,111,421
Other Deposits: ...	373,341,734	Coin	4,068,891
<i>Bankers</i>	<i>287,428,766</i>		
<i>Other Accounts ..</i>	<i>85,912,968</i>		
	£ 429,195,945		£ 429,195,945

* Source, *The Economist*, June 11, 1949.

Although for many years the Bank of England refused to admit its responsibility as a lender of last resort in time of stress, it is now firmly committed to that practice.²¹ This means that it is accessible to eligible borrowers at their option, and that it has a

²⁰ *Report of the Committee on Finance and Industry*, pp. 29-30.

²¹ Like any central bank, the Bank of England can render this aid only if it is well fortified with reserves. Although its directors were reluctant to admit that the Bank of England was substantially different from other banks, there was a tacit admission of its responsibilities in the fact that its reserves were normally higher than those of other banks and that it did come to the rescue of the money market by heavy rediscounts of bills and advances in times of trouble. On this point, see Bagehot, *Walter, Lombard Street*, New York, E. P. Dutton & Co., pp. 43-44, 64, 164-172.

moral responsibility to make advances at all times of financial emergency. In this respect its duty is similar to that of the American Federal reserve banks. There is one important difference, however, between the English and the American central banking arrangements. Whereas member banks go directly to the reserve banks for accommodation, the English joint stock banks traditionally do not; instead, they reduce their loans to the bill market, and the bill brokers and discount houses in turn go to the Bank of England. Each Thursday the Bank normally fixes a rate, known as the "bank rate," at which it will buy acceptable bills offered to it. Discount houses may either sell their bills outright to the Bank or borrow at the Bank, at a rate of one-half of 1 per cent above the bank rate, for periods of about one week. To be eligible for purchase, commercial bills should "bear at least two good British names, one of which must be the acceptor."²²

The bank rate is effective in the British money market partially because of the custom of the "clearing banks"²³ of varying their own interest rates so as to keep them in a certain relation to the bank rate. This relation, in general, is that: (1) the clearing banks allow interest on time deposits at a rate 2 per cent below the bank rate; (2) the rate charged on advances to customers is from $\frac{1}{2}$ to 1 per cent above the bank rate; and (3) the rate charged on call money is somewhat above that paid on deposits.²⁴ Of course, it is entirely possible that in times of excessive reserves, competition for loans will force the market rate of interest below that justified by the customary relation to the bank rate. This situation is one with which we are familiar, for it occurs in relation to the Federal Reserve Banks when their discount rate becomes entirely ineffective because of the absence of need for rediscounting by member banks. But the small number of banks in the English money market and long experience with the leadership of the Bank of England make the moral effect of the bank rate greater than that of the Federal reserve rediscount rate. When, however,

²² *Report of the Committee on Finance and Industry*, pp. 43-44. It is reported that, before the end of the 1930's, there was some direct discounting at the Bank of England by the joint stock banks, a violation of an 80 year old tradition. Cf. Sayers, R. S., "Central Banking in the Light of Recent British and American Experience," *Quarterly Journal of Economics*, May 1949, p. 201.

²³ Ten large London banks, with the Bank of England, are members of the London Clearing House, through which most of the check clearings for England and Wales are carried out. These ten banks are known as the "clearing banks."

²⁴ *Ibid.*, p. 32.

the Bank of England wishes to make its rate effective, it does so by disposing of part of its assets. Thus, "cash" is absorbed from the money market just as open-market sales by the reserve banks reduce members' cash reserves, and the bill market is forced to resort to the Bank, where borrowers feel the effect of the bank rate on new advances and rediscounts. In the past, the Bank has resorted to borrowing on government bonds rather than outright sale when it desired to avoid losses that might result from a possible decline in the market value of securities. Now the policy is to allow short-term Treasury bills, of which the Bank carries an ample supply, to mature without renewal.²⁵

The rediscount rate of the Bank of England, like that of the Federal Reserve Banks, appears to have lost much of its significance. Abandonment of convertibility of the pound and the use of exchange controls have removed most of the traditional reasons for changes in the Bank Rate. Tight money is no longer needed as a means of protecting the London money market from short-term capital withdrawals. The function of the Bank, therefore, is mainly to provide the funds needed to enable the commercial banks to meet the business requirements of the country and the requirements of the government in its pursuit of full employment.

THE FRENCH BANKING SYSTEM

True to the individualistic traits of the French people, the banking system of France was long operated upon an individualistic basis, with few public regulations imposed upon it. From this lack of regulation comes a lack of published data in respect to the banking business. Many banks have published no statements, and those that have often failed to provide a reliable picture of their affairs. In fact, until 1941 there was not even available a list of the banks in operation.²⁶ The French banking system has consisted of five major parts: (1) the Bank of France, which operates both as a commercial bank and as a central bank; (2) the great credit banks, which carry on the bulk of the country's commercial banking; (3) the local and regional deposit banks; (4) the

²⁵ Hawtrey, R. G., *The Art of Central Banking*, New York, Longmans, Green & Co., 1932, pp. 151-152.

²⁶ Meyers, Margaret G., "Nationalization of French Banks," *Political Science Quarterly*, June 1949, p. 195.

investment banks; and (5) the private banks.²⁷ The nationalization law of December 2, 1945, classified the French banks into four categories. These are: (1) the Bank of France; (2) deposit banks; (3) business banks; and (4) long- and medium-term credit banks.²⁸

Deposit banks are defined as banks that receive public demand deposits and time deposits with maturities of not over two years. These banks may not hold investments in any one business enterprise to an amount in excess of 10 per cent of its capital. This restriction, however, does not apply to participations in banks, financial agencies, or mortgage companies necessary to the operation of the deposit bank. The four largest deposit banks, the *Crédit Lyonnais*, the *Société Générale*, the *Comptoir National d'Escompte de Paris*, and the *Banque Nationale*, were brought under government ownership and control on January 1, 1946. The management of each was placed in the hands of a board of 12 directors. Four of these directors are appointed by the State, four are appointed by representatives of the trade unions, and four by the Minister of Finance. Two of the four appointees of the Minister of Finance represent the Bank of France, and the other two are required to be persons with extensive banking experience.

Business banks are those whose principal activity consists of "taking participations and the management of participations" in business enterprises; *i.e.*, investment banks. They receive deposits only from their own partners or personnel, or from enterprises in which they have investments amounting to 15 per cent of the total registered stock, or from enterprises in the promotion of which they participated to the extent of 15 per cent of the initial capital. Each incorporated business bank having total liabilities of over 500 million francs is brought under government control through the appointment of a government commissioner who is aided by a control committee comprised of a representative of industry, labor, and financial institutions. The government commissioner is authorized to attend all meetings of the boards of directors and of stockholders of the business banks and may exer-

²⁷ See the Introduction to "The Banking System of France," by Robert J. Lemoine, in Willis and Beckhart, *Foreign Banking Systems*.

²⁸ See the *Federal Reserve Bulletin*, May 1946, pp. 483-488 for the details of the law of December 2, 1945, which provided for the nationalization of banks and for their regulation.

cise a veto over "any decision contrary to the national interest." The bank may appeal a decision of the commissioner before the National Credit Council.

The Bank of France. Like the Bank of England, the Bank of France seems to owe its origin to the desire of government interests for a ready source of credit. It was founded in 1800 by Napoleon Bonaparte because he was unable to get satisfactory credit from the existing banks.²⁹ The Bank performs the threefold function of fiscal agent for the government, bank of rediscount, and commercial bank. In the last-named capacity it is the largest commercial bank in France and maintains over 600 offices and agencies throughout the country. Its capital, privately owned before January 1, 1946, now belongs to the State. The old private stockholders received, in exchange for their shares of stock, registered negotiable bonds having a redemption value equal to the liquidation value of the surrendered shares.

Both for its regular business customers and for other banks, the Bank of France discounts trade or bankers' bills with maturities of not over three months. These bills may be of either domestic or foreign origin and must bear three good names if unsecured or two names if secured by the Bank's own stock or by government obligations. It makes loans and advances on the security of French and colonial securities and upon gold. In its position of fiscal agent, the Bank lends financial support to the government by making short-time advances to it and by purchasing and distributing its bond issues.³⁰

The Bank has a monopoly on bank note issue. Originally the law under which it operated required only that the note issue be so limited as to make it possible for the bank to redeem its notes in specie, but later a fixed maximum limit was provided. This limit had little effect upon the volume of note issue at times when limits were most needed, for the government promptly extended the limit whenever the legal maximum interfered with the ability of the Bank to make government loans. Since 1928, the law has required the Bank to carry gold reserves of not less than 35 per cent of its combined note and deposit liabilities without restric-

²⁹ Liesse, André, *The Evolution of Credit and Banks in France*, N. M. C. 1909, Chapter I. This study gives a comprehensive view of the origins and development of the Bank of France, as well as a briefer survey of the activities of the credit banks.

³⁰ Willis and Beckhart, *op. cit.*, pp. 547-549.

tion on the total volume of notes. This requirement was suspended September 1, 1939.

The credit policy of the Bank of France is a moderate one. Its willingness to make advances to other banks (by rediscounting at regular rates not subject to frequent change) is in direct contrast with the more active part taken in credit control by the Bank of England. This stability of the French discount rate has been made possible in part by the stable economic structure of the country itself and in part by the freedom of the Bank of France from the sudden drains on its reserves arising from foreign demands, which are so important in the case of the Bank of England.³¹ Whatever control on credit the Bank exercises comes through its discount rate, which is especially effective because of the direct contact that the Bank has with the business community. The influence of the Bank is further augmented by the customary use of bank notes as a medium of exchange in France, a custom maintained because of the imperfect development of any extensive check-clearing system. Any increase in business activity increases the demand for currency, which in turn leads to rediscounting. The volume of notes needed and the consequent volume of new rediscounting rise much faster under these circumstances than in the case of English business expansion, where the main requirement is an increase in the reserve cash to support bank deposits. Unlike the American Federal Reserve Banks and the Bank of England, the Bank of France has resorted but little to the use of open-market operations as a means for credit control, although it possesses limited power for such operations.

The National Credit Council. The sharp departure from the old highly individualistic nature of French financial institutions is evidenced by the establishment of the National Credit Council under the nationalization law of 1945. The Council, in addition to its president, who is a cabinet minister, and the Governor of the Bank of France, consists of 38 members. Seventeen of these members represent the country's principal economic activities. Seven represent the government. Seven are appointed by the Minister of Finance on the basis of banking and financial experience. Seven represent public or semipublic financial institutions.

³¹ *Ibid.*, pp. 559-560.

The Council is given power to participate in planning actions affecting banking practices and organization. It can make proposals and be consulted on problems concerned with general credit policy including financing of reconstruction, modernization of the national economy, and the control of imports and exports. In general, it acts as an advisory body to the several government Ministries concerned with working out a planned economy in postwar France.

The Banking Control Commission. More active control over French financial institutions centers in the Banking Control Commission. This five-man commission is comprised of the Governor of the Bank of France, the President of the Financial Section of the Council of State, the Manager of the Treasury, the Manager in charge of credit in the Ministry of National Economy, and one representative of the bank employees' federation. The commission can investigate, control, and exercise discipline over financial institutions.

THE GERMAN BANKING SYSTEM

As a result of the war, the German banking system shared the fate of the general economic structure. Although there is little point in attempting to make a thorough examination of the present-day system, it is worth while to note briefly the most common types of commercial banks and the operation of the prewar central bank, the Reichsbank, and its postwar successors.

Because of their highly varied activities, banks of Germany have been difficult to classify. In general they may be grouped into two classifications: public and private banks. The former have been either government owned or controlled, or co-operative in nature; the latter have been privately owned incorporated credit banks and private banks.³²

The Reichsbank. Although its origin can be traced back to 1765, the Reichsbank proper was established in 1875. Like the Bank of France, it was the central bank of its country, rediscounting notes and bills for other banks and making direct loans to them. Like the Bank of France, also, the Reichsbank dealt directly with nonbanking customers who carried deposits with it and obtained funds from it. In addition it was responsible for

³² Madden and Nadler, *op. cit.*, pp. 366-380.

the operation of a clearing system for effecting the transfer of funds between individuals and firms. Under the law of 1924, reorganizing the bank after the extreme inflation from 1922 to 1923, a 40 per cent reserve in gold and foreign exchange was required against notes issued, and not more than one fourth of this reserve was to be in the form of foreign exchange. As security for notes not covered by the required reserve, the bank was required to hold bills of exchange of not over three months' maturity. The German Reichsbank Law of June 15, 1939, removed entirely the old requirements for a gold or foreign exchange reserve. Instead, the cover for note issue was merely required to be bills of exchange, Treasury bills, securities, and call loans.

In addition to its right to buy and sell bullion and foreign exchange, the Reichsbank could discount bills of exchange bearing three good names and of not over three months' maturity, and three months' Treasury bills indorsed by a solvent third party. It could also make loans on the collateral of gold and silver, securities, bills of exchange, and merchandise. Other German banks both rediscounted and borrowed directly at the Reichsbank to increase their cash reserves. The Reichsbank made short-time loans to the central government and purchased in the open market Reich, German state, and municipal bonds and bonds of public credit institutions. Open-market powers, however, were exercised only to a limited extent, for the Reichsbank relied mainly upon its discount rate and credit rationing for its instruments of credit control.

Both the banks and the general public carried "giro" or clearing accounts with the Reichsbank. The importance of these giro accounts may be visualized when one considers that payments in Germany generally are not made by checks on bank deposits, as in the United States and England. Instead, either currency is used or the payment is made through the giro accounts. Simply stated, the giro system transfers funds from the account of the debtor to the account of the creditor upon an order of the debtor given directly to the bank. In the use of checks, the order is given to the creditor or payee, who himself presents it for payment or credit. The Reichsbank was able to undertake this function by reason of the 500 branches it maintained throughout Germany. Furthermore, it was closely tied in with the Reichspost or giro system, operated by the post-office department, which made pay-

ments of smaller sums among smaller firms and individuals.' To facilitate further the clearing of obligations among financial institutions and banks arising from dealings in bills, securities, and the like, the Reichsbank set up clearinghouses in the larger business centers, where all money claims might be exchanged and the balance settled by credits on the clearing members' accounts with the Reichsbank. Besides these clearinghouses set up by the Reichsbank, other local clearinghouses existed that handled interbank clearings.

*The restoration of central banking in Western Germany since the war.*³³ Since early in 1947, the American and British Military Governments have sponsored the creation of a number of regional central banks in their zones of occupation. These banks, called Land Central Banks, are to replace the former regional offices of the old Reichsbank. By March 1948, eight of these regional central banks had been established. Ultimately the commercial banks of the region will become owners of the stock of the central bank. The functions of these regional central banks include dealing in short-term three-name commercial bills of exchange, short-term government bonds, and gold and foreign exchange. In addition they may lend against securities of the kind eligible for purchase. They may accept non-interest-bearing deposits for giro purposes and serve as a clearinghouse for remittances and checks of the commercial banks. The commercial banks operating within the region must maintain minimum deposits with the regional central bank as reserve against deposit liabilities.

On February 15, 1948, announcement was made of the establishment of a new central bank, The Bank of German States (The Bank Deutscher Laender), with headquarters in Frankfurt. This bank is designed to co-ordinate the activities of the regional central banks. The latter provide its capital of 100 million marks. Although not empowered to issue currency at the start, it is expected that it will later take over the note issuing function. The bank is given the duty of promoting uniformity in banking policies by regulating the discount rates and open-market operations of the regional banks. Furthermore, it fixes minimum reserve requirements for these banks and may also control the reserve

³³ "Central Banking Laws for American Zone of Germany," *Federal Reserve Bulletin*, February 1947; "New Central Bank for U.S. and British Zones of Germany," *Federal Reserve Bulletin*, March 1948.

requirements imposed upon the commercial banks. The bank may rediscount for and grant loans to the regional banks. It may also deal in gold and foreign exchange and act as a clearing agency for the settlement of transfers between regional banks.

SUMMARY

Relation of banks to industry. The British banks grew up as instruments for financing trade and commerce rather than industry; this history has influenced their credit practices down to the present time. Reflecting this practice and the habit of financing both domestic and foreign trade by the use of bills of exchange, the credit extended by English banks is to a large extent in the form of discounted bills. Advances to industry are usually also for short periods. One may say, therefore, that the English commercial banks have almost exclusively confined themselves to furnishing short-time capital to British trade and industry. Relatively little long-time capital is advanced through stock market loans or bank purchase of industrial securities, and none through the making of real estate loans. Save for government securities, the commercial banking assets of English banks are primarily self-liquidating in nature, and only to a small extent do they depend upon "shiftability" for liquidity. The same is true of the big credit banks of France, although some of the smaller banks engage in long-time financing. This practice is in contrast with that of commercial banks in the United States, which have departed widely from mere extension of short-time commercial credits. Although they do not extend credit on real estate security, the Canadian banks extend loans to industry for periods somewhat longer than the maturity of bills of exchange bought by British banks. Nevertheless, their loans are mainly for working capital rather than for fixed capital purposes. In Germany, however, as in other Central European countries, the big banking institutions have extended both short-time and long-time credits. In contrast with the aloof attitude of British and French commercial banks is the policy followed by the German banks of affiliating themselves closely with industry even to the extent of owning stock and participating in the management.

Degree of supervision. The banks of the United States are probably the most closely supervised in the world. Next in line come the Canadian banks, which must submit to examination by

outside authority. The banks of England, France (before 1940), and pre-Nazi Germany were, in contrast, virtually free from regulation and control. Today the tendency is toward greater regulation.

Relation of the central bank to the money market. Both the Bank of France and the German central banks rediscount for other banks and thus expand the cash resources of the commercial banking system. This practice resembles the methods employed by the Bank of Canada and American Federal Reserve Banks in putting funds into the money market. In contrast is the practice of the Bank of England of purchasing bills of exchange from the bill market rather than from commercial banks. The Bank of England and the Bank of France deal directly with the business community, injecting and extracting funds with an expansion and contraction of loans. On the other hand, the American reserve banks and the Bank of Canada confine their lending to other banks.³⁴ Only the Bank of England and the American Federal Reserve Banks make serious attempts to control the money market by open-market operations of the central banks.

Questions for Study

1. Can you list the outstanding differences between Canadian and American banks?
2. Before the establishment of the Bank of Canada, how did Canadian banks a) carry their cash reserves? b) provide seasonal currency expansion needed by agriculture?
3. The Canadian Minister of Finance, 1923-30, acted as a central banker in making advances to banks.
 - a) What were the objections to this?
 - b) Compare the reasons for his actions with the actions of the United States Treasury during crises under the pre-Federal Reserve national banking system?
4. Identify the four important divisions of the British banking system.
5. Compare the extent of outside regulation exercised over the commercial banks of Canada, England, and the United States.
6. Examine Table 17. a) How did the growth of current accounts compare with that of demand deposits in the United States? b) What advantage, if any, can be ascribed to the reserve ratios of American banks in comparison with those of British banks?

³⁴ Although Federal Reserve Banks have limited power to make direct loans to industry, they have not made any significant use of it.

7. Contrast the manner in which British and American banks normally acquire added cash reserves at the central bank.
8. a) What are the British "accepting banks?"
b) What is their place in the money market?
c) Why does their future appear none too bright?
9. Compare the prewar with the wartime and postwar function of the British discount houses.
10. What changes arising from the war have occurred in the currency issues of the Bank of England?
11. How does the "Bank Rate" influence the British money market? Why is its position less important now than before the war?

Part V

The Volume of Bank Credit and Its Control

The Volume of Bank Credit .

HAVING STUDIED THE OPERATION OF INDIVIDUAL BANKS AND THE nature of our banking systems, we are now ready to examine the over-all consequences of bank credit operations. So far our study has proceeded on the assumption of the existence of a given level or quantity of bank assets and liabilities and our attention, therefore, has been mainly directed to questions related to their management and administration. We purposely postponed any detailed analysis of how this body of assets and deposits came into being. Likewise we postponed an examination of economic forces and conditions determining their quantity. In Part V, therefore, we direct our attention to the question of how changes in the level of bank credit come about and the determinants of those changes.

Measuring the volume of bank credit. The volume of bank credit may be measured by two separate standards. In actual practice, these two standards are frequently confused and used interchangeably. One measure is the amount of loans and investments of banks. This represents the credit extended by the banks to all borrowers—industrial, governmental, and private—whether for long or for short term. The total loans and investments of the banking system correspond roughly with the total bank deposits. This must be so because the loans of any one bank are limited by the volume of its deposits, whereas for all banks combined, the deposits are to a large extent limited by and are the result of loans. This paradox will be considered later.

A second standard for measuring the volume of bank credit is the amount of bank notes and deposits subject to check. It is obvious that this meaning of "bank credit" differs from the first. Here it refers to the volume of bank promises-to-pay-on-demand

which are acceptable to the public and are being held by it in lieu of cash. In reality it represents the volume of demand credit extended to the banks by their demand depositors and note holders. Putting it in another way, it represents purchasing power held in the form of bank obligations.

Each of these two definitions of bank credit has a special significance. The total loans and investments represent the volume of capital (measured in money) made available to borrowers through the medium of banks. The volume of deposits subject to check measures the extent to which the commercial banks are creating and furnishing the community with substitutes for specie. Not only does each of these concepts of bank credit have special significance, but they are also closely related to each other. Of the total amount of deposits resulting from lending operations of banks, a certain proportion will become additions to the supply of demand deposit currency.

EXPANSION OF BANK CREDIT

Reserve requirements. Before tracing through the process of bank credit expansion, let us review briefly the question of the cash reserve requirements of banks. Banks' cash reserves, of course, need be but a fraction of their deposit liabilities. Were this not so, bank deposits would be but claim checks for cash held by the banks, and expansion of bank credit would be impossible.

Cash reserve requirements consist of (1) legal reserves dictated by legal authority; and (2) till money and funds deposited in other banks available as working cash. To satisfy the law and meet their working requirements, bankers must maintain a cash reserve equal to a certain percentage of deposits. Whenever banks possess such cash reserves in amounts in excess of requirements credit expansion can occur.

The expansion process. Let us assume that Bank A holds cash reserves \$1,000,000 above its requirements. Let us make the added assumption that average bank reserve requirements against demand deposits are 20 per cent. The \$1,000,000 of excess reserve, therefore, is sufficient to support additional demand deposits to the amount of \$5,000,000. The important question is how such an expansion in demand deposits may come about.

First, it must be clearly understood that Bank A, by itself, cannot create \$5,000,000 in new demand deposits by lending that

amount and crediting it to borrowers' checking accounts. Should it make such an attempt it would be confronted with a heavy drain of cash as soon as borrowers draw checks to utilize the proceeds of their loans, since it would be most unlikely that any sizable portion of such checks would escape being deposited in some of the 13,500 other banks of the country. In order to be able to meet checks drawn by the new borrowers, therefore, Bank A must have excess cash in amounts about equal to the volume of its new loans. In other words, Bank A is able to expand its loans by \$1,000,000 on the basis of \$1,000,000 in excess reserves. It makes no difference whether borrowers take the proceeds of their loans in cash or in credit on their checking accounts. If the borrowers take cash, the statement of the lending bank will show an increase in loans and a corresponding decrease in cash. If the proceeds are taken in additions to checking accounts, the statement will show an increase in deposit liabilities instead of a decrease in cash. This may best be illustrated by an assumed example.

BANK A

<i>Before Lending</i>		<i>After Lending Cash</i>		<i>After Lending Deposits</i>	
Assets:		Assets:		Assets:	
Reserve—	\$1,000,000	Reserve—	None	Reserve—	\$1,000,000
Loans—	None	Loans—	\$1,000,000	Loans—	\$1,000,000
Liabilities:	None	Liabilities:	None	Liabilities:	
				Demand deposits—	
					\$1,000,000

Regardless of the form the loan takes, Bank A will probably lose an amount of cash equal to the new loan. The borrowers will doubtless draw checks against new deposits created for them by the lending bank, so that for all practical purposes it makes little difference to the bank in which form the proceeds are taken. There has been some discussion among writers on banking as to whether or not the lending bank might, in fact, be able to retain part of the deposits credited to borrowers by virtue of the rule, frequently used and discussed elsewhere, that borrowers must carry deposit balances that bear some relation to the amount of loans.¹ But this discussion need not concern us here. We may assume,

¹ For a discussion of this question, see Phillips, C. A., *Bank Credit*, New York, The Macmillan Co., 1920. For a later study, see Angell, James W., and Fieck, Karel F., "The Expansion of Bank Credit," *Journal of Political Economy*, 1933, pp. 1-32, 52-193.

quite correctly for purposes of our analysis, that the bank may lend what it has in the way of excess reserve and will lose cash to the amount of the new loan.²

Multiple expansion of bank credit on the basis of new reserves. The \$1,000,000 excess reserve of the bank in our example may be made the basis of an expansion of bank loans and deposits to some multiple of itself. This expansion process takes place as follows. The borrowed cash, whether withdrawn from Bank *A* at the time of the loan or later through checks, is redeposited in other banks. Hence, as a result of the \$1,000,000 loan by Bank *A*, other banks in the community receive new deposits of a like amount. But in the hands of these other banks, which we may call Banks *B*, the new deposits are mingled with the other existing deposits and become subject to the law of large numbers, so that a relatively small cash reserve (20 per cent, perhaps) will suffice to protect the bank. Therefore Banks *B* will have \$1,000,000 in new deposits, requiring cash reserves of \$200,000. This leaves Banks *B* with free cash or unused reserves of \$800,000, which can be used as a basis for new loans of \$800,000. These new loans will result, as before, in a loss of cash equal to the amount of the loans and a corresponding expansion of deposits in other banks, which we shall call Banks *C*. This series of banks, after setting aside 20 per cent of their newly acquired cash as reserve against their new deposits, will in turn find themselves in possession of unused cash reserves that enable them to make new loans. Thus we see that, so long as acceptable borrowers are available, new loans will be made and new deposits created until the original \$1,000,000 in excess reserves has been split up into 20 per cent reserves behind a new \$5,000,000 in deposits.³ If part of the new deposits are put into time deposit form by the individuals who ultimately come into their ownership, the amount of cash reserves required will be less (6 per cent instead of 20 per cent), and the new cash reserves referred to above will support a larger volume of new loans and deposits.

The above illustration is perfectly accurate in its description of the theoretical aspect of the way bank credit is built up. The

² Any deposits that individual banks create out of forced balances are inert and unimportant from the standpoint of credit expansion. Because they require reserves, they restrain rather than increase the power of the banking system to create active deposit currency.

³ The same effect on deposits arises from the purchase of securities by banks as from the making of loans.

expansion process may and probably does in practice frequently take place in a somewhat different way. If all of the banks of the community came into possession of new reserves at the same time, it is possible that all would find themselves simultaneously making new loans and creating new deposits at a rate approximately proportional to the relative size of each bank. If this should happen, each bank would find itself gaining new deposits created by other banks at about the same rate that its own loans were tending to bring a loss of cash. To the extent that this is true, no bank would experience a loss of cash, and the expansion of loans and deposits could continue for each bank until its reserve ratio had fallen to the conventional figure. Whether or not the banks of the community expand their loans and deposits "in step," the principle of bank credit expansion is the same.

Contraction in volume of bank credit. The opposite procedure occurs when the supply of available bank reserves is reduced. Let us suppose that Bank *A* suffers a decline in its supply of legal reserves as a result of the export of gold or a sale of government securities by the Federal Reserve Bank. Assuming that the bank is "loaned up," and has no excess reserves, the loss of reserves requires that it take some action. It may, of course, borrow additional reserves at the reserve bank and thus avoid the immediate necessity of a reduction in credit. If, on the other hand, it decides to curtail its credit lines, the sequence of events will be the reverse of those of the expansion phase. Bank *A* can reduce its loans and investments by requiring its borrowers to repay their loans and by selling securities. But this process attracts an equivalent volume of cash away from the other banks in the banking system, for debtors will be unable to repay loans merely by relinquishing their claims (deposits) against Bank *A* alone. The repayment of loans to Bank *A* therefore must involve the sale of merchandise and securities to individuals and firms who are customers of other banks. Similarly, if Bank *A* sells securities to replenish its cash reserves, that process will attract cash from the reserves of other banks. The loss of cash reserves by these other banks, which we may call Banks *B*, requires them in turn to reduce their loans and investments by an amount roughly equal to their reserve losses. This in turn attracts cash reserves from yet other banks, which we may call Banks *C*, in an ever-widening circle. With each reduction in loans and investments, deposits decline correspondingly.

The progressive shrinkage of credit, therefore, must continue until the deposit structure of the banking system has fallen to the point where the reduced volume of reserves bears the appropriate relation to deposits. Of course, if a bank or banks at any point in the process just described were to borrow new reserves at the reserve banks instead of reducing loans and investments, to that extent the shrinking of credit would be unnecessary.

DETERMINANTS OF THE VOLUME OF BANK CREDIT

The demand for bank credit. In the foregoing analysis of bank credit expansion it was assumed that borrowers were readily available to absorb the additional loans that banks were prepared to make. In other words, there was assumed to exist an unlimited demand for any available bank credit. Obviously such an assumption is at times unwarranted. Especially is this true when depression strikes and profit prospects fall away. On the other hand, when profit expectations improve, as they do in times of prosperity, business firms seek loans in order to expand the scale of their operations. Without attempting here to examine the intricate causes behind fluctuations in business, we may conclude that the demand for bank loans changes sharply with the business cycle. Consequently the volume of credit rises in times of prosperity and boom and falls away during depression. These changes are further accentuated by the fact that the credit position of borrowers improves with prosperity and worsens during depressions. During periods of prosperity borrowers both have greater desire to borrow and become more eligible for credit.

Loans other than those to business also show marked cyclical variations. The demand for funds to finance speculation, construction, and consumer expenditures reflect changes in business activity, employment, and profits.

Investments of banks. When banks purchase securities they are extending credit quite as effectively as when they make loans. Hence an increase in commercial bank holdings of securities tends to cause an expansion of demand deposits. The "demand" for this form of bank credit is evidenced by the appearance in the market of securities available for bank purchase. It happens that such a demand for bank credit need not fluctuate in the same manner as does the demand for loans to private business. For example, during the 1930's, a substantial volume of securities ap-

peared for purchase by banks. Governmental bodies, including the United States Treasury, entered the market for credit and their securities were readily purchased by the banks. The result was an expansion in bank demand deposits. One may conclude, then, that periods of governmental budgetary deficits tend strongly to lead to an expansion in the quantity of bank credit. When such deficits appear during depressions the expansion of bank credit through security purchases counteracts the shrinkage in loan credit. Of course, the most outstanding example of bank credit expansion based on bank purchase of securities occurred during the war.

Willingness of banks to lend and invest. More than borrower demand is required for bank credit creation. Unless banks possess adequate amounts of excess cash reserves and are willing to assume the risks of lending, demand will not be translated into bank credit. But at times banks are reluctant to lend even when they possess excess reserves. When business prospects are uncertain, many would-be borrowers are unable to qualify for loans. When depression becomes severe and prices are falling, bankers will lend only to borrowers of the highest credit standing. Moreover, bankers like to be amply fortified with cash if there arises any threat of runs by depositors. At such times, even firms with good credit standing may find borrowing difficult. Clearly, then, the volume of bank credit depends in part upon the willingness of the banks to assume loan risks.

Even though suitable borrowers are not available, banks may invest in securities. Unless panic conditions create an abnormal demand for excessive cash, banks turn to investments during depressions. Unless high-grade short-term obligations are available, however, investment by banks may be slowed up by fear of capital losses induced by possible future increases in interest rates.

The "internal drain" of cash into circulation. A limit to the maximum amount of bank loans and deposits that can be supported under existing reserve requirements by any given cash reserve is found in the so-called *internal drain* of cash into circulation, which accompanies the expansion of loans and deposits. As bank loans expand and new deposits are created, the expanding volume of demand deposits may be accompanied by a growth in trade and production and some rise in the level of prices. Gradually the uses for hand-to-hand currency rise through the increase

of both payrolls and retail prices. When banks are free to shift their demand deposit obligations into the form of bank note currency, this demand for additional currency can be met without embarrassment. Where this shift cannot easily be made, as is the case in the United States, the currency for circulation must be taken out of the banks' own cash reserves. Therefore the ability of banks to expand credit on the basis of new reserves is considerably limited.

The amount of internal drain of cash reserves into circulation varies with different conditions. Where deposits are utilized to handle dealings in securities, an expansion of deposits is accompanied by a more belated demand for currency in circulation than if an increase in demand deposits were utilized to support a commodity price expansion. Some idea of the requirements for circulation may be obtained from Table 20, which shows the money held by the public and the deposits subject to check at the end of June.

External drain under the gold standard. Another factor limiting the expansion of bank credit is found in the "external drain"

TABLE 20
MONEY IN CIRCULATION AND ADJUSTED DEMAND DEPOSITS, ALL BANKS *
(In millions of dollars)

<i>End of June</i>	<i>Adjusted Demand Deposits **</i>	<i>Currency Outside Banks</i>	<i>Percentage Ratio of Currency to Demand Deposits</i>
1929.....	22,540	3,639	16.1
1933.....	14,411	4,761	33.0
1938.....	24,313	5,417	22.2
1939.....	27,355	6,005	21.9
1940.....	31,962	6,699	20.9
1941.....	37,317	8,204	21.9
1942.....	41,870	10,936	26.1
1943.....	56,039	15,814	28.2
1944.....	60,065	20,881	34.7
1945.....	69,053	25,097	36.3
1946.....	79,476	26,515	33.3
1947.....	82,186	26,299	31.9
1948.....	82,697	25,638	32.0
1949.....	81,877	25,266	30.8

* *Federal Reserve Bulletin*, March 1950.

** Adjusted demand deposits consist of all demand deposits, other than inter-bank deposits and U.S. Government deposits, less cash items in process of collection.

of specie out of the bank reserves of one country into those of the rest of the world. This occurs when the banks of a country on the gold standard expand their loans and deposits excessively. This drain of reserves from one country to other countries resembles the drain of reserves that an individual bank experiences when it expands its loans "out of step" with the rest of the banking system. Such an expansion, we have seen, results in a loss of cash for the bank to the extent that its loan expansion is not counterbalanced by loan expansion by other banks. If the banks of any given country expand their loans and their demand deposits (including bank notes) at a rate faster than that occurring abroad, there will result an increase in domestic prices of commodities and securities out of line with such prices abroad. This development tends to upset any existing international equilibrium of trade and indebtedness, to develop an unfavorable balance of debt, and to induce an export of specie, which, again, must come out of bank reserves.

Relation of time to demand deposits. The total volume of bank credit is intimately tied up with the volume of bank deposits and note currency, since the extension of credit by the banks in the first instance normally gives rise to additions to demand deposits. The proportion of deposits resulting from bank loans that will ultimately lodge itself among the savings and time deposits of the banking system depends upon the current willingness and ability of the income receivers, through whose hands the newly created demand deposits ultimately flow, to accumulate savings in the form of time deposits.

This tendency of savers to make time deposits rather than to invest in securities or real property affects the size of bank time deposits and the reserve requirements of the banks. It does not, however, seriously affect the volume of money substitutes available in the form of demand deposits. A moment's reflection reveals that this must be true. Suppose a person saves \$1,000 out of his current income. Several choices confront him. First, he may simply hold \$1,000 in idle checking account balances, in which case there is obviously no effect on the bank credit situation. The only result of such action or inaction is a decline in the velocity of spending of checking account currency that arises from his decision to hoard. Second, he may decide to invest the \$1,000 in tangible capital equipment. In this case he spends his savings,

and the \$1,000 is simply transferred on to the person selling the equipment. Again no change results in the bank credit situation. Third, he may choose to invest the \$1,000 in bonds or stocks, which again results in the transfer of the \$1,000 to others. Finally, he may deposit the \$1,000 in a savings bank. For this he receives a deposit credit of \$1,000. The savings bank may be required to set aside a small amount of cash as a reserve against the new deposit. The remainder will be lent or invested and thus be returned to general circulation. Since the savings account is not transferable as money, the process results in no monetary expansion. Rather, because the savings bank must hold some cash reserve against the new savings deposit, the reserves available for the support of checking accounts is somewhat diminished.

Any change in the desire of the public to hold time deposits instead of security investments, therefore, has some effect on the expansion power of the banking system. Other things being equal, an increase in the public's desire for time deposits reduces the power of the banks to create and support demand deposits on a given volume of reserves by requiring that part of the reserve be set aside against the new time deposits.

There is, of course, the possibility that businessmen may be tempted to switch part of their demand deposits into time deposits in order to earn interest. To the extent that they succeed in their attempt to eat their cake and have it too and are able to care for their usual business needs with a smaller volume of demand deposits, the shift of deposits from demand to time form would tend to be somewhat inflationary. It is unlikely that any very material change of this sort will occur under the existing rules governing the withdrawal of time deposits.

ELASTICITY OF THE SUPPLY OF BANK CREDIT

Bank credit elasticity involves (1) the elasticity of the lending power of the banks; and (2) the elasticity of the supply of hand-to-hand currency. The need for each of these two types of elasticity is easy to see. The changing needs of business are sometimes seasonal and irregular in nature and sometimes are related to cyclical variations in economic activity. Moreover, a kind of long-run elasticity is needed to provide the long-run expansion in the effective money supply necessary to match the long-run growth of economic activity.

The need for seasonal elasticity in loan power of banks arises out of the decided seasonal swings that occur in many business operations. During the active season, borrowers desire more accommodation at the banks, whereas during the slack season, bank loans tend to be retired. Likewise, during cyclical upswings, businessmen are anxious to expand their capital holdings and resort to banks for loans. Now, granting that such variations in business activity are a fact to be reckoned with, the banking system that functions smoothly is one that can accommodate itself to these variations in the demand for loans without strain or embarrassment. In other words, it possesses "elasticity."

The need for currency elasticity arises in part from the pronounced changes in seasonal currency requirements. During seasons when agricultural harvests and marketing are at the peak and over the Christmas holidays, currency demands rise sharply. In addition, seasonal and cyclical increases in bank loans and demand deposits require currency to match the deposit increases because of the "internal drain" mentioned earlier.

The need for currency elasticity is especially acute for ordinary commercial banks because they are unable to meet an increased pressure for currency in circulation by exchanging their demand deposit liabilities for circulating note liabilities. Therefore, such banks must meet additional currency demands out of their own cash reserves. This, naturally, is a painful process, since a dollar paid out into circulation reduces by that amount the lending ability of the bank making the payment, and reduces the lending power of the whole banking system by several times that amount. It is not surprising, therefore, that the question of "elasticity" of credit and currency has figured so prominently in the discussions of banking problems.

The source of elasticity. The problem of elasticity of bank credit seems to have but one solution. That solution is found in the possession of unused reserves by the banks in times of slack demand for credit and currency. Only here can the basis for the expansion of bank loans and the paying out of cash into circulation be obtained. Given adequate unused reserves, the banks can meet the demand for new loans and can pay out cash into circulation as needs arise. To be sure, the ability to issue notes freely would be more advantageous because the volume of unused reserves needed to provide elasticity would then be somewhat less.

However, it is possible to obtain elasticity without bank note issue.

Individual banks, or course, may and do expand their own supply of reserves by borrowing from other banks that have an excess. Such action does not increase the over-all lending power of the whole banking system, but merely allows one bank to acquire lending power at the expense of another. But the existence of a central bank, which normally carries excess reserves of its own and is therefore able to lend commercial banks *newly created cash reserves*, provides a new and powerful element of elasticity that could not exist in its absence.

THE RELATION OF CENTRAL BANKS TO THE EXPANSION OF BANK CREDIT

Perhaps the outstanding distinction between a central bank and other banks lies in the fact that the central bank assumes the responsibility, through either law or custom, of providing the banking system with the unused reserves necessary to a smooth and satisfactory functioning of the whole system. This carrying of unused reserves by the central bank is made possible by some curbing of the profit motive. This curb may arise merely from custom and recognition of public responsibility on the part of the directors of the central bank, as in the case of the Bank of England, or it may be provided in the form of governmental representation in the management and a limit on the dividends which can be paid by the central bank on its stock, as in the case of the Federal Reserve Banks.

The absence of the profit motive as a determining factor in central bank management is necessary if such a bank is to be free from the pressure felt by the managers of private banks. Private bankers seek to maintain their loans and investments at the maximum consistent with the safety of the individual institution. Such an attitude is inconsistent with the carrying of unused reserves. A central bank has the duty of maintaining its reserves of standard money in an amount considerably above the minimum required by law or necessity. This being the case, it is always ready and able to furnish other banks with cash by making them loans or by buying (rediscounting) part of their assets. It has become the habit for other banks to carry their cash reserves in the form of obligations of the central bank. For example, in the United States the legal reserves of member banks consist of deposits with the Federal Reserve Banks, while in England the reserves of the

ordinary banks are mainly in the form of deposits with the Bank of England. In the case of both the English and the American "member banks," till money consists to a large extent of notes of the central bank.

The practice of carrying commercial bank reserves as deposits in the central bank greatly strengthens the cash reserves and hence the lending power of the central banks. New specie, for example, coming into the banking system thus finds its way into the reserves of the central bank. Moreover, the use of central bank notes instead of standard money as currency in general circulation also increases the ability of central banks to provide currency elasticity. For example, the Federal Reserve Banks are now required to carry reserves in gold certificates equal to at least 25 per cent of each dollar of deposits and Federal Reserve notes. Thus, if the Federal Reserve Bank should lend \$1,000,000 to a member bank and pay out actual standard money, its cash reserves would be reduced by the full amount. But if the member bank received the proceeds in the form of credits on its reserve account deposited with the Federal Reserve Bank, the process would tie up only 25 per cent of the \$1,000,000 or \$250,000. Similarly if the member bank received Federal Reserve notes, \$250,000 in gold certificates would be tied up. Thus the lending power of the central bank and its power to provide elasticity is expanded four times by the practice of paying out central bank obligations instead of cash. In addition, the cash of the reserve banks is vastly expanded by the practice of pooling the cash holdings of the member banks as deposits of legal reserves with the Federal Reserve Bank.

THE PERVERSE NATURE OF BANK CREDIT ELASTICITY

A troublesome question arises in respect to the elasticity of bank credit during the up-and-down swings of the business cycle. For example, during the upswing of the cycle, both borrowers and bankers are inclined to expand the volume of bank credit at a rate that leads to price inflation and overexpansion in investment. On the other hand, during depressions the opposite result appears. Credit shrinkage at such times tends to accentuate the fall in prices and the decline in business activity. This tendency of bank credit to overexpand on the upswing and to overcontract on the downswing of business is sometimes referred to as the "perverse elasticity" of the banking system.

Central bank credit and perverse elasticity. It is clear that central banks are in a position to exercise considerable influence over the volume of bank credit through their power to increase and decrease the cash reserves available to commercial banks. As was indicated earlier, there are grounds for believing that commercial banks, operating in pursuit of individual profits, contribute to economic instability by being open handed in their loan policies during periods of prosperity and niggardly during depressions. This accusation of "perverse credit elasticity" on the part of the commercial banks can be applied equally well at times to the actions of the central banks. There is little doubt that central banks, even though operated in what is believed to be the public interest, sometimes are overgenerous in expanding credit during prosperity. Similarly, they have sometimes been guilty of adopting strict credit policies during depressions that have accentuated economic collapse.

The central bank actions causing perverse elasticity of bank credit can be explained on several grounds. First, there is the belief that central bank credit policy should be directed towards accommodating commercial bank currency and reserve requirements. These obviously reflect the optimism of commercial bankers during periods of prosperity. Second, central bank credit policy, under the gold standard, has been under the limitations imposed by the necessity of protecting gold reserves. When depressions are accompanied by a threat of gold loss, the central bank must then adopt a restrictive policy that has adverse effects on current business. Third, central bankers, even though interested in efforts at economic stabilization, are often lacking in adequate information needed to guide their actions.

Questions for Study

1. Which concept of the "volume of bank credit" is the more significant in measuring the inflationary consequences of bank credit expansion?
2. Do you understand why multiple expansion of bank credit can occur only through the action of the banking system rather than through the action of a single bank?
3. Can you trace the process by which a shrinkage of available reserves will impose credit contraction on a banking system which is fully loaned up?

4. Among the determinants of the volume of bank credit is demand. Why did the demand for loans and the demand for investments move in the opposite direction during the depression years of the 1930's?
5. a) What is the meaning of the "internal drain"?
b) When the internal drain averages one-third, and required reserves are twenty per cent, about how much multiple credit expansion can occur on a given dollar of free reserves?
6. Why is the external drain unimportant when a currency is not convertible into gold?
7. Do you see why the expansion of savings accounts carried by commercial banks is not inflationary?
8. a) Why does a banking and currency system need elasticity?
b) What is the basic source of elasticity for the 1) individual bank;
2) the whole system?
9. Why are central banks essential for adequate short-run credit elasticity?
10. What is perverse elasticity? Why does it arise?

Federal Reserve Credit Policy and the Volume of Bank Credit

A BANK'S CREDIT POLICY IS CONCERNED WITH THE PROCESS OF MAKING loans and involves the question of the volume and the nature of loans. The volume is necessarily determined in the light of both available reserves and the need for cash assets. The type of loan depends, within legal restrictions, upon the judgment of the banker and upon the borrowers available.

Central banks, like any others, necessarily have a credit policy which involves both the quantity and the quality of loans. The credit policy of central banks, however, is of particular social importance because central bank loans directly affect the volume of cash and cash reserves of other banks, thus determining to a considerable extent the power of the banking system as a whole to expand its loans. This arises from the fact that central bank obligations, whether in the form of notes or of deposits, are the equivalent of cash to the other banks and to the public. Thus an expansion of central bank loans gives rise to new deposit and note obligations and, in turn, to more reserves in other banks. This is true whether the central bank lends exclusively in the open market, or both in the open market and to the other banks, as do the Federal Reserve Banks. It is, of course, obvious that it matters little just what form the central bank loans take so far as the effect on cash reserves of other banks is concerned. They may consist of the purchase of bonds, loans to businessmen, or the rediscount of paper for other banks.

Central banks cannot be said to control absolutely the volume of cash reserves of the other banks. For example, between January 31, 1934, when the American dollar was stabilized at its

present gold content, and January 1, 1941, America imported over \$14,000,000,000 in gold, which came through the hands of member banks and increased their reserves accordingly with no change in the volume of reserve bank credit. Likewise, a reversal of the inward flow of gold causes a reduction in member bank reserves. Changes in the public demand for currency in circulation cause similar changes in bank reserves.

Primary and secondary credit expansion. That volume of bank credit which banks extend on the basis of reserves of cash assets not arising from the loan and investment operations of the central bank is often referred to as primary expansion. Thus, if the reserve banks were completely out of the market, holding only cash assets, the member and nonmember bank loans would constitute the primary expansion. On the other hand, if the reserve banks were to lend \$1,000,000,000 and increase the cash reserves of member banks by that amount, and the member banks expanded their loans appropriately, the new bank credit resulting would be secondary expansion.

It is the secondary expansion of member and nonmember bank credit which the central banks can control by the exercise of their credit policies. This fact explains the desire of the reserve banks to keep in touch with the money market at all times. They may do this by encouraging the banks to build up the general level of their loans and deposits to the point where they are obliged to rely partially upon reserve bank credit. Such contact is difficult to maintain in times of heavy gold imports such as America has experienced from time to time since 1920. The situation early in 1941 is a good case in point. In spite of the \$2,184,000,000 in government securities owned by the reserve banks, they were essentially out of contact with the money market by virtue of the fact that member bank excess reserves were about \$5,800,000,000. Had the reserve banks sold all of their securities and withdrawn completely from the money market, member bank reserves would still have been substantially in excess of requirements. In contrast, the Federal Reserve Banks, at the end of March 1950, had over \$18 billion of credit outstanding. The member banks at this time had excess reserves of less than \$1 billion. Under these conditions, the reserve banks were clearly in a position to reduce the reserves of member banks and compel credit restriction had they wished to do so.

METHODS OF CONTROL

Power to control the volume of member and nonmember bank credit. We have seen that the reserve banks are able to exercise control over the volume of bank credit through their control of secondary credit expansion, and that this necessitates maintenance of contact with the money market. There still remains the problem of the extent of their control over secondary credit expansion when this contact is maintained.

The whole question of the effectiveness of the Federal Reserve attempts at credit control is complicated by the fact that the reserve banks are essentially lenders of last resort for the whole banking system. This means that the reserve banks are expected to lend: (1) directly to members (through rediscounting or on collateral notes); and (2) to dealers and others through the purchase of eligible bills in the open market. This expectation arises from the normal rights of membership on the one hand and the attempt to develop and maintain a bill market on the other. It follows that neither can be restricted unduly in the pursuit of credit policy. It also follows that the reserve banks must rely, for the most part, upon some form of persuasion to check applications of banks and dealers for accommodations rather than upon outright refusals.

Checks upon applications for reserve credit. These checks are primarily found in the ability of reserve banks to vary the cost of their credit by changing their rediscount and open-market buying rates. If the rates are made sufficiently high, they will have the effect of reducing applications for accommodations and, in turn, of limiting reserve bank credit. Another check exists in the form of a banking taboo against continuous borrowing by member banks at the reserve banks. To the extent that this operates, banks attempt to rediscount only for seasonal or emergency needs, being careful not to expand the whole scale of their operations upon borrowed reserves. A third check takes the form of "moral suasion." This is designed to prevent the expansion of bank credit for use in undesirable fields on borrowed reserves.

Refusal to extend credit. The reserve bank not only may put barriers in the way of member bank applications for loans but also may refuse outright to grant accommodation. First, there is the absolute right of the Board and the reserve banks to withdraw

rediscount and borrowing privileges from member banks that make undue use of bank credit for the "speculative carrying of or trading in securities, real estate, or commodities, or for any other purpose inconsistent with the maintenance of sound credit conditions."¹ This check is in direct opposition to the position of the reserve banks as lenders of last resort and can be expected to be used charily, if at all. Second, the reserve bank can exercise discretion in determining the advisability of making advances to member banks in any particular instance. This power arises not only from its privilege of deciding when eligible paper is "acceptable," but also from its duty to extend credit "with due regard for the claims and demands of other member banks, the maintenance of sound credit conditions, and the accommodation of commerce, industry, and agriculture."²

The rediscount rate as an instrument of credit control. In contrast to the method of using discretion, the reserve banks may and do attempt to influence the volume of member bank rediscounts by means of the rediscount rate. The effect of these rates upon the volume of rediscounting by member banks has often been disputed. The dispute centers about the question of what rate, if any, can penalize a member bank sufficiently to reduce its willingness to rediscount. The arguments of those who hold that little can be expected in the way of restricting rediscounting by increasing the rate may be summarized as follows:

1. In many cases the divergence in customers' rates between country and city areas in any district makes it impossible to make the rediscount rate high enough to penalize the country banks without being prohibitive to the city banks, whose customers' rates are much lower. At the same time, it is impracticable to attempt to charge country banks a higher rate than the city banks, not only because of the irritation that would arise but also because it would have the effect only of driving country banks to their city correspondents for accommodation. Similar considerations prevent wide differences in the rediscount rate of different districts.

Perhaps one answer to this difficulty lies in the probability that restrictions on banks in money centers will have a more vital effect on general business conditions than restrictions applied to banks

¹ Federal Reserve Act, Section 4.

² *Ibid.*

in rural areas. Another is simply that in such cases the reserve banks must exercise discretion.³

2. Some critics believe that the multiple expansion possibilities of bank credit on the basis of new borrowed reserves make it impossible to shut off expansion by a high discount rate. Obviously, if a bank which borrows \$1 in new reserves can lend some multiple of \$1 (let us say \$5, for example), it would be impossible, practically, to raise the cost of rediscounting high enough to make rediscounting unprofitable. This objection needs further analysis. Multiple expansion of new reserve cash into new loans and deposits can undoubtedly take place in the banking system as a whole. Moreover, it could be easily accomplished by a single bank with a monopoly. But our previous analysis led to the conclusion that in a banking system such as ours, with its multitude of unit banks, it is likely that any given increase in the loans of one bank based upon newly acquired reserves would lead to a loss of cash approximately equal to the loans so made. Therefore if the increased cost of borrowing additional reserves from the Federal Reserve Bank is sufficient to overcome the advantage of utilizing those borrowed reserves *in the first instance*, the rise in the rate will be restrictive. For the individual banker cannot assume that he can enjoy multiple lending power on the basis of the new reserves. But whenever the individual banker decides that his particular need for additional reserves justifies his payment of the rate and actually borrows at the reserve bank, he provides the banking system as a whole with free, costless additions to its reserve funds, which invites multiple credit expansion.

3. It may also be argued that, without any direct opportunity for multiple expansion by an individual bank, it still follows that a higher discount rate will not reduce loans to customers on funds obtained by rediscounting, because in practice rediscounting costs will be absorbed by the bank and not passed on to the customer in the form of higher rates. It is argued that the cost of additional reserves obtained through rediscounting at the higher rates is only a small part of the total cost of making bank loans. Such costs include wages and salaries of employees, rent, interest paid on deposits, and the like. An increase, let us say, of 25 per cent

³ Burgess, W. Randolph, ed., *Interpretations of Federal Reserve Policy*, New York, Harper & Bros., 1930, p. 190.

in the cost of rediscounting (by a rise in the rate from 4 to 5 per cent) would so little affect the average costs of making loans as to be of no importance. An opposite view of the effect of an increase in the rediscount rate is that new loans will not be made unless the necessary cost of getting funds for the new loan—that is, rediscount costs—is met by the customers' rate. Thus an application of the marginal cost theory of economics would tend to make the customers' rate rise as fast as the rediscount rate and remain above it. Governor Strong took a compromise view when he held that a rediscount rate will restrict rediscounting if it is somewhat above the average cost of the bank's loanable funds although below the average rate of return on its average loans and investments.⁴ Attention should also be called to the fact that even though banks are able to rediscount and re-lend at a profit their position is thereby made less liquid. An expansion of rediscounts by a member bank reduces its ability to obtain accommodation later by using up its quota of borrowing privileges at the reserve bank.⁵

It is probable that banks fail to take a strict marginal cost view in deciding rates to be charged on new loans, since losses of reserves can hardly be charged against any given customer's loan. Moreover, the wish to prevent desirable customers from seeking loans elsewhere may easily persuade the banker of the advantage of lending at rates that are unprofitable in view of current rediscount rates. An example of this is cited by Governor Strong in the case of a bank that borrowed \$15,000,000 at the reserve bank at 7 per cent while lending \$18,000,000 to a customer at 6 per cent.⁶ A substantial increase in the cost of borrowing or rediscounting may therefore be required if a member is to make appreciable changes in its customers' rates, quite irrespective of any tendency toward multiple expansion. On the other hand, because of the psychological effect of changes in the Federal Reserve Bank rate member banks may raise their customers' and open-market rates even though not compelled to do so out of cost considerations.

⁴ Burgess, ed., *op. cit.*, pp. 195-196. For a discussion of penalty rates, see Harris, S. E., *Twenty Years of Federal Reserve Policy*, Vol. I, Chapter 2.

⁵ Hawtrey suggests a similar reluctance of British banks to dispose of their liquid bills in order to expand advances to customers. *The Art of Central Banking*, p. 153, *et seq.*

⁶ Burgess, ed., *op. cit.*, p. 91

4. It may be argued that an increase in the rediscount rate may fail to restrict rediscounting because the inelasticity in the demand for short-time loans in times of prosperity enables commercial banks to make corresponding increases in customers' rates without discouraging customer borrowing. This argument would apply to manufacturers for whom interest on bank loans is a relatively unimportant part of costs. In times of large speculative profits, it would likewise apply to stock market speculators. It is sometimes argued, however, that traders carrying large stocks of goods on borrowed money are sensitive to changes in the bank rate, and a reduction of (or increase in) borrowing and purchase of goods on their part would exert a powerful influence upon the activity of the economic system. Even though higher money rates would probably be ineffective in restricting the borrowing of both middlemen-traders and security speculators once a boom of sizable proportion is under way, it is probable that changes in money rates might be effective under more normal conditions. Some transactions are certain to be marginal in profit prospects and an increase in the cost of borrowed funds may prevent their being undertaken.

Even more important is the fact that "tight money," as evidenced by a higher central bank discount rate, results in a change in attitude of bankers toward further loan expansion. In such a case it becomes less important that banks raise their customers' rates and that the borrowers consequently reduce their borrowings. Bankers tend to scrutinize borrowers more carefully in times of tight money and eliminate the less desirable loan applicants. To the extent that this happens, a rise in the central bank rate may prove restrictive even though customers' rates fail to rise enough to discourage borrowers.

There are those who are not entirely convinced that the rediscount rate may be made definitely restrictive through its effect on the cost of borrowing or rediscounting. They believe, nevertheless, that a change in the rate will influence member bank rates because it indicates the opinion in reserve bank circles regarding credit conditions.⁷

Taboo or sentiment against continuous borrowing by banks. Federal Reserve authorities have placed much emphasis upon the sentiment against continuous borrowing by member banks. One

⁷ Cf. Burgess, W. Randolph, *The Reserve Banks and the Money Market*, New York, Harper & Bros., 1936, pp. 221 and 230.

reason for this emphasis lies in the fact that it harmonizes with the policy that one bank should not be permitted to utilize more than its share of the rediscount facilities of its reserve bank. Another reason for the importance of the enforcement and maintenance of this sentiment arises from the fact that the genuine liquidity of the reserve banks themselves cannot be maintained unless members refrain from any continuous credit extension upon borrowed reserves. We have seen, in our discussion of eligibility requirements, that it is not so much the kind of paper offered as a basis for borrowings or rediscounts that determines the liquidity of the reserve banks as that members borrow only for short-term and for emergency needs. Finally, the sentiment against continuous borrowing may be a powerful support for the efforts of the reserve banks to control the volume of credit. It obviously makes more effective the open-market operations of the reserve banks. In fact, in the face of a strong enough sentiment of this kind, one might cease entirely to worry about the effectiveness of the discount rate and concentrate efforts of control upon the open-market operations. The discount rate would be unimportant if banks could be relied upon to borrow only for seasonal and emergency needs.

Burgess speaks of the tradition against continuous borrowing as a heritage from the old national banking system.⁸ The Federal Reserve Board has stated:

It is a generally recognized principle that reserve bank credit should not be used for profit and that continuous indebtedness at the reserve banks, except under unusual circumstances, is an abuse of reserve bank facilities. In cases where individual banks have been guilty of such abuse, the Federal reserve authorities have taken up the matter with the officers of the offending banks and have made clear to them that their reserve position should be adjusted by liquidating a part of their loan or investment account rather than through borrowing. Abuses of the privileges of the Federal reserve system, however, have not been general among member banks. The tradition against continuous borrowing is well established, and it is the policy of the Federal reserve banks to maintain it.⁹

In spite of these efforts to build up a tradition against continuous borrowing, one may question the results. Governor Strong

⁸ *Ibid.*, p. 219.

⁹ *Annual Report of the Federal Reserve Board*, 1928, p. 8.

mentions the attempts to educate the banks in the matter, yet he admits that, if borrowing at the reserve banks is profitable, members will not reduce their rediscounts when they come into possession of extra funds but will be tempted to make additional loans.¹⁰

Discretionary control of the volume of rediscounting. Since the Federal Reserve Banks hold the important position of lenders of last resort for member banks, they must be prepared to control the volume of rediscounting or at least to limit it in times of business expansion. Limiting the rediscounting privileges of particular banks is obviously one possible way of accomplishing this end. It is, of course, subject to the difficulties inherent in the exercise of discretion. These difficulties have been aptly described by Governor Benjamin Strong of the Federal Reserve Bank of New York, and include the following points: ¹¹

1. Member banks rediscount after the occurrence of the transaction which results in an impairment of reserves. To refuse rediscount facilities at such a time would be a serious source of irritation.
2. With some members located at a considerable distance from the reserve bank, discretion is not easy.
3. The reserve bank in practice would be confronted with the necessity of determining whether or not the particular reason for reserve impairment was such as to justify aid.
4. Attempts to regulate the extension of credit to particular banks could hardly be combined into a unified policy for control of the total volume of reserve bank credit.
5. If the reserve bank refuses to rediscount for a member bank, it has actually assumed the responsibility for the refusal of loans to the bank's customers.
6. The use of discretion as a means of credit control might result in a "bureaucratic attitude" in the reserve banks toward the affairs of member banks.

In spite of these difficulties, which make the dependence on discretion a poor method of controlling the volume of rediscounting, such a method must necessarily be relied upon at times. In cases where the uniform rediscount rate for a given district exercises no restraint upon those members in outlying territory who charge high rates to customers, discretion must necessarily be exercised

¹⁰ Burgess, ed., *op. cit.*, pp. 90, 181-182.

¹¹ Burgess, W. Randolph, ed., *Interpretations of Federal Reserve Policy*, New York, Harper & Bros, 1930, pp. 190-191.

to prevent an undue use of reserve bank credit by particular member banks. Also, the sentiment against continuous borrowing or rediscounting is closely related to discretion.

Under the Federal Reserve Act, as amended in 1933, it is the right and duty of the reserve banks, in granting accommodations to particular member banks, to consider the possible undue use of bank credit for speculation or other purposes "inconsistent with the maintenance of sound credit conditions." Furthermore, the Board may suspend from all rediscount and borrowing privileges any member that persists in making undue use of bank credit. Thus there is now sufficient authority in the hands of the Board and the reserve banks to permit them to exercise direct pressure of the discretionary type if they care to do so.

Restriction from rules of eligibility. Before 1935 the technical rules governing eligibility of paper for rediscount constituted a form of restraint on member bank applications for accommodation at the reserve banks. Indeed this was the original intent of the Federal Reserve Act. But this restraint was of little importance in restraining business expansion based on bank credit of the short-time variety, for the supply of eligible paper would normally be ample for member bank needs. During the depression of the early 1930's, however, banks in need of cash to meet deposit withdrawals arising out of the liquidity panic were sometimes unable to borrow at the reserve banks because of a lack of sufficient amounts of eligible paper and government securities. But the amendment of 1935 permits member banks to borrow on noneligible paper when sound security is given. This frees banks from the possibility of any serious restriction arising from the lack of paper technically eligible for rediscount.

Open-market operations as an instrument of control. The open-market operations of the reserve banks, as authorized by Section 14 of the Federal Reserve Act, fall into two classes. The first class consists of purchases of bankers' acceptances, outright or under 15-day repurchase agreements. These have been called "involuntary" open-market purchases because the initiative is taken by the seller rather than by the reserve bank. The reserve banks in such cases stand ready to purchase all offerings at a stated rate of discount which is determined in the light of current market rates for such paper and is designed to assist in the maintenance of a market. City banks resort to the sale of bankers' acceptances

to the reserve banks as a means of increasing their reserves without rediscounting. Because of this fact, the buying rate of the reserve banks must be fixed not alone in view of the current rate on acceptances but also in view of general credit conditions. Too low a discount rate on bankers' acceptances may largely nullify the effects of a high rediscount rate.

The second class of open-market operations is of the "voluntary" type, in which the reserve banks take the initiative. The voluntary open-market operations are confined to the purchase and sale of government securities. It is by engaging in the purchase and sale of these securities that the reserve banks may take the initiative in bringing about changes in the volume of reserve bank credit. The net sale of bonds by the reserve banks reduces by that amount the reserve balances of member banks. Unless the member banks possess ample excess reserves they must replenish their reserves by the sale of bankers' bills or acceptances to the reserve banks or by rediscounting. Since rediscounting and borrowing are in the end the main reliance of member banks, it follows that the net sale of bonds by the reserve banks will tend to cause an increase in the rediscounts of members. This in turn causes a tightening of the money market. First, it exposes member banks to a greater extent than before to the pressure of the rediscount rate. Second, and more important, borrowing as a continuous policy is considered undesirable, and banks react to forced rediscounting by raising customers' rates and generally restricting their loans and investments in an attempt to get out of debt. The reserve banks can, on the other hand, ease the money market by raising member bank reserves through the purchase of bonds in the open market. This increase in reserves permits members to reduce their borrowings and rediscounts. The reserve banks may expand their bondholdings to a point where member banks are out of debt and have a substantial excess of reserves.

During the 1930's, when the policy of the Federal Reserve System was directed toward the creation of a substantial amount of excess bank reserves, voluntary open-market purchases of U.S. obligations was used. In this way the money market was eased and banks were encouraged to expand credit. During the war years that followed, however, involuntary open-market operations dominated the Federal Reserve credit policy. Member bank re-

erves were under pressure both from the enormous increase in money in circulation and by the increase in reserve requirements growing out of deposit increases. To encourage banks to absorb freely the growing volume of government short-term issues, the reserve banks stood ready to make unlimited purchases of Treasury bills at a discount of three-eighths of 1 per cent. This enabled member banks to replenish their reserve balances by the sale of these bills to the reserve banks while avoiding going into debt in the manner required by rediscounting and borrowing. The reserve banks also created credit by purchasing Treasury certificates of indebtedness directly from the Treasury when such action appeared necessary. These purchases, too, resulted sooner or later in increased member bank reserve balances, as the Treasury spent the funds so acquired. Charts No. 11 and 12 show this phase of Federal Reserve credit development. In Chart No. 11 one may clearly see the relationship between increases in money in circulation and the expansion of Federal Reserve credit. Chart No. 12 shows the types of government securities held by the reserve banks during the period of the war.

Control by changing member bank reserve requirements. Still another weapon remains for the exercise of control over the volume of member bank credit by the reserve authorities. The Board of Governors may now change the legal reserve requirements of member banks. The amount may not be less than the statutory requirements nor more than twice that amount. This authority vastly expands the power of the Board over rediscounting when pressure is to be exerted upon member banks. Like voluntary open-market operations, it enables the Board to force members to rediscount. This in turn forces the member banks to face the restrictive effect of the cost of borrowing and the tradition against it. It has the advantage over open-market operations that the Board can make the restrictions felt by all the member banks if necessary, whereas open-market operations primarily affect banks in the financial centers.

Changes in member bank reserve requirements have some weaknesses as an instrument of credit control. When requirements are increased in order to absorb member bank excess reserves, some banks may be unfairly pinched although others may be but little affected. An increase in requirements may put an undue burden on the bank whose reserve position is already tight in order to

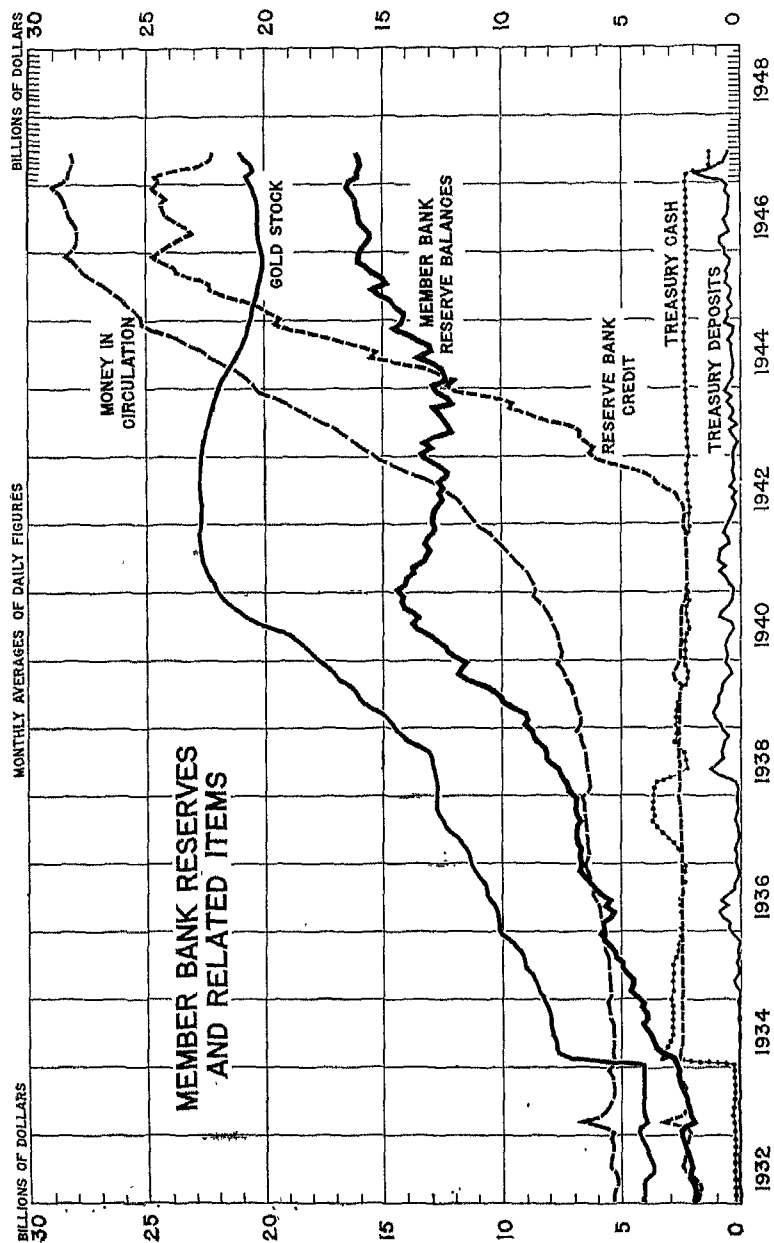


CHART 11.

reduce excess reserves held elsewhere in the system. Of course, this same criticism applies in some measure to open-market operations. Another objection is the uncertainty to which banks would be exposed should substantial changes be made without warning and with frequency.

Selective credit controls. In addition to the methods of imposing general quantitative controls over bank credit that we have been considering, the Federal Reserve System has exercised certain *selective* controls. For example, the Board of Governors of the Federal Reserve System is responsible for fixing margin requirements on loans to finance the purchase and carrying of securities. Therefore, it fixes such margin requirements with an eye to regulating the amount of bank credit that can go into stock market speculation. In 1946, for instance, margin requirements were raised to 100 per cent and loans of this type were entirely shut off for a time. Such a method of control of credit tends to exercise some check on the over-all expansion of bank credit and has the merit that it permits restraint on speculative credit without limiting credit for more worthy purposes.

Another selective control device was the war-born Regulation W of the Board of Governors. This regulation dealt with all forms of credit extended to consumers. It covered charge accounts, down payments on installment purchases, the period of time for which credit could be extended, and the like. Its purpose was to hold down consumer expenditures and to assist in checking price inflation at a time when consumers' goods were scarce. The power to regulate consumer credit was terminated in 1947. It was temporarily restored (August 19, 1948—June 30, 1949) as a means of combating inflation. A tremendous resurgence of inflationary pressure followed the outbreak of Korean hostilities. Consequently the Defense Production Act of 1950 restored the Board's authority to regulate consumer credit. In addition, it authorized cooperative action with the Administrator of Housing and Home Finance to establish control over housing credit. Therefore the Board restored Regulation W and added Regulation X governing credit for housing.

The advocacy of more selective controls arises from two sources. First the Federal Reserve System has felt compelled to continue after the war the policy of stabilization of the market for government securities adopted in 1939. Since outstanding bonds were issued to yield a low rate of interest, low interest rates in the money

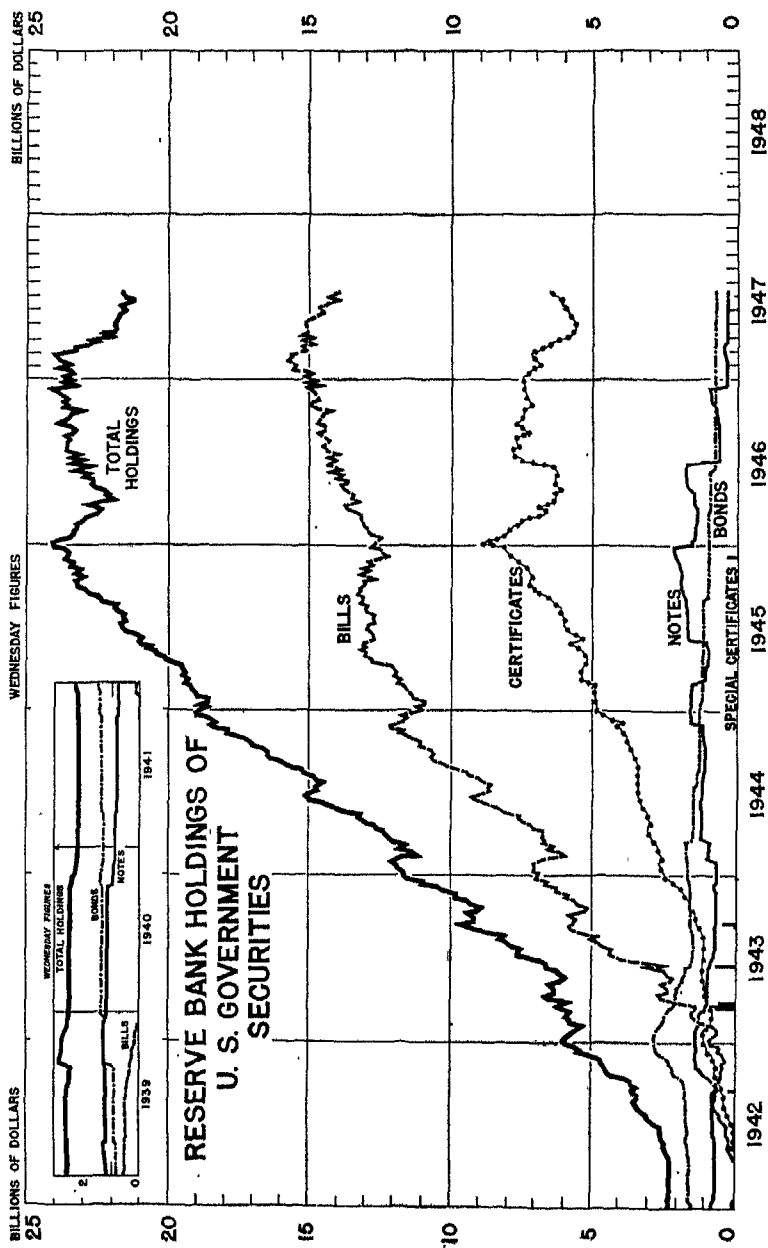


CHART 12.

market must be maintained if bond prices are not to be allowed to decline. But this support of the bond market, through open-market purchases, provides a ready supply of bank reserve funds and therefore nullifies any attempt on the part of the Federal Reserve Banks to impose checks on inflation through the traditional tight money policy. Because wide changes in the volume of stock market credit and consumers' credit are important contributors to economic instability, selective controls offer an important substitute for the traditional controls involving the availability and price of credit.¹² A second reason behind the support for selective controls is the belief of some that low and stable long-term interest rates are prerequisite to planning for full employment. Therefore the shotgun-like traditional controls that rely on changes in the price of credit and impinge on all borrowers alike should be replaced entirely by selective types.

The influence of Treasury policy on the reserve position of banks. Normally the Treasury holds substantial working balances that are carried either as deposits in the Federal Reserve Banks or with the member banks. The handling of such funds, where they are placed, and the manner of their disbursement, has a profound effect upon member bank reserve balances. For example, when the Treasury transfers funds on deposit with commercial banks to its account with the Federal Reserve Bank, member bank reserve balances suffer a reduction by an amount equal to the transfer. Such transfers, therefore, have the same effect as would the sale of an equal amount of securities in the open market by the Federal Reserve Banks. A similar result follows the utilization of surplus Treasury funds on deposit with member banks to retire government obligations held by the Federal Reserve Banks. It is clear that action by the Treasury may supplement or nullify, as the case may be, attempts on the part of the Federal Reserve Banks to control member bank reserves. It is important, therefore, that Treasury policy be harmonized with Federal Reserve policy.

Direct influence on the volume of bank credit. Up to now our discussion of methods of controlling the volume of bank credit has dealt only with devices for causing changes in the volume of

¹² Cf. Sproul, Allan, "Monetary Management and Credit Control," *American Economic Review*, June 1947, p. 342. For a discussion of the use of margin requirement and consumer credit controls, see Goldenweiser, E. A., "Federal Reserve Objectives and Policies," *American Economic Review*, June 1947, pp. 328-334.

bank reserves or the ease of obtaining them. When the problem is one of imposing restriction upon credit expansion the devices mentioned, alone or combined, are generally capable of preventing expansion. For, except in cases when banks have large amounts of excess reserves and the Federal Reserve Banks are out of contact with the market, available methods of restraint are effective if boldly used. On the other hand, in time of depression the methods of easing credit and expanding bank reserves may prove ineffectual in inducing credit expansion. It is appropriate, therefore, to examine briefly what methods are available for bringing about an expansion in the volume of bank credit itself rather than in the quantity of available reserves.

First, it should be noted that the open-market purchases of securities by the Federal Reserve Banks may lead to an expansion of member bank deposits as well as an increase of their reserves. If the reserve banks wish, therefore, they may induce a very substantial increase in bank deposits by extensive open market operations. How effective such an expansion of deposits will be as a means of promoting a revival of business is problematical, since the owners of the new deposits will be the previous holders of the securities purchased in the open market. Moreover, to the extent that the purchases were made from commercial banks, no increase in deposits will materialize.

Much more promising, as a means of expanding the volume of bank credit, is deficit spending by the government financed by borrowing at the commercial banks. Here is a device that bears directly upon the quantity of credit. Could the tax revenues be made sufficiently flexible, the fiscal policy of the government would provide a powerful and effective means of controlling the volume of credit. This possibility will be explored further when we discuss monetary policy in a later chapter.

Questions for Study

1. To what degree can central bank credit policy be said to influence money market conditions? When is it impotent?
2. a) Why are central banks lenders of last resort?
b) How does this function hinder the use of discretionary pressure by the reserve banks?
3. Differences of opinion exist in respect to the effectiveness of changes in the central bank discount rate as a means of control over commercial bank credit.

- a) What are the main arguments for and against its effectiveness?
- b) Do you think that the rate alone is effective? Is it more promising when combined with other measures?
4. Why is it important, in relation to central bank credit policy, that individual banks which borrow from the Federal Reserve Banks can expand their loans only by the amount borrowed?
5. What advantage arises from the taboo on continuous borrowing?
6. When is the application of discretionary restraint on member bank borrowing likely to be needed? What serious objections can be made to a general use of this method of restraining credit expansion?
7. To what extent did eligibility rules, in the past, prevent member banks from obtaining aid from the reserve banks? What is the situation now?
8. Federal Reserve open market operations have usurped the earlier predominance of member bank borrowing and rediscounting.
 - a) Can you explain why this has come about?
 - b) In the light of the magnitude of present-day Federal Reserve credit created on the basis of government security holdings of the reserve banks, does it appear likely that member bank rediscounting and borrowing will ever again be the source of the *bulk* of Federal Reserve credit? Does this mean that member bank rediscounting and borrowing can never again be an important means of acquiring cash and legal reserves when needed?
9. Distinguish between voluntary and involuntary open market operations.
10.
 - a) What is the main advantage of raising reserve requirements to restrain credit?
 - b) In the postwar years the Board has repeatedly asked for increased powers to raise reserve requirements. How can this request be justified in the light of the Federal Reserve System's heavy holdings of government securities purchased in the open market?
11. What are selective credit controls? Why has their use been advocated in preference to tightening credit in general?
12. How is the reserve position of member banks affected by:
 - a) The shift of Treasury deposits from member banks to the Federal Reserve Banks?
 - b) The use of tax revenues to retire government securities held by the Federal Reserve Banks?
13. Why is it important that Treasury policy be kept in harmony with central bank credit policy?
14. Why is central bank credit policy alone often inadequate to combat depressions?

Criteria and Applications of Credit Policy

WE HAVE SURVEYED THE CONTROLS AVAILABLE TO THE FEDERAL Reserve authorities for influencing the volume of commercial bank credit. Let us now examine the aims and purposes that lie behind their decisions in making use of these controls. These aims and purposes are commonly referred to as the *standards of central bank credit policy*.

STANDARDS OF CENTRAL BANK CREDIT POLICY

It is not always easy to discover the exact basis for decisions that determine the action of central bankers. True, there is the presumption that these decisions are arrived at in the light of the public interest. But quite naturally there are differences in opinion as to how the public interest will best be served. Two broad bases of policy have emerged in our experience with the Federal Reserve System. These are often distinguished by the titles of "qualitative" and "quantitative" standards of credit policy. Each has had its strong supporters. The fact of the matter is that in practice both have played a part in the determination of over-all policy. This is necessarily so since neither the quality nor the quantity of bank credit can be entirely disregarded.

Qualitative standard—facilitating trade and commerce. One attitude, that adopted by Federal Reserve authorities, emerges naturally from long experience with the international gold standard. It represents that, within the limits set by the necessity of watching gold reserve ratios, the proper procedure of the central bank is one that will provide adequate credit to finance the legitimate needs of commerce and industry. To accomplish this, it is necessary only to make sound loans to finance production and trade.

Thus, the solvency of the banking system is assured not only because such loans are self-liquidating, but also because they have no tendency to result in inflation, since new credit is created only to finance new production. On the other hand, loans of a speculative nature, or loans to finance fixed capital expansion, should be avoided, since they are not accompanied by a corresponding increase in goods during the life of the loan; in other words, they are not self-liquidating. The theory that soundly made loans of a self-liquidating nature cannot become the basis for an undesirable inflation is now pretty thoroughly exploded. Yet in spite of this, such a rule is wholesome from the standpoint of banking solvency under the gold standard, where quantitative control of credit is subject to little management in any particular country.¹ According to this view, the central bank policy should be one of encouragement of member bank credit expansion of a strictly self-liquidating sort and discouragement of speculative and capital loans. The central bank should, therefore, rediscount only self-liquidating paper and should create cash funds for members only in amounts needed to finance trade and industry.

Quantitative standards of credit policy. In contrast to the view that proper and effective credit policy involves faithful adherence to the qualitative, self-liquidating commercial paper standard is the view that credit policy ought to be directed at the maintenance of the correct *quantity* of money and credit. Support for quantitative standards is derived from the firm conviction of a great many economists that qualitative standards are inadequate to meet the needs of a modern world in search of economic stability.

The enthusiasm for quantitative standards of credit control has been measurably heightened by the general abandonment of the restrictions of the gold standard and the consequent freedom to regulate currencies in the interest of domestic requirements.

The quantitative standards of credit policy, concerned with the maintenance of the right quantity of monetary purchasing power, involve but little interest in the nature of bank loans so long as they are well secured. Consequently, eligibility requirements for paper offered for advances at the central bank fade into relative insignificance. The expansion of stock market loans and bond

¹ For an extreme defense of this position, see Willis, H. Parker, *The Theory and Practice of Central Banking*, New York, Harper & Bros., 1936. During most of its history the Federal Reserve Board took this approach to its problems of credit policy.

investments becomes a matter of indifference so long as the resulting *volume* of demand deposits and currency is correct.²

Some examples of quantitative credit standards. It will be useful to consider briefly some of the more familiar examples of the application of quantitative credit standards.

1. *The reserve ratio.* Before World War I, central bank policy seems largely to have been a reflection of the ebb and flow of the country's gold supply. The changes in the reserve ratio of the central banks were necessarily the most important consideration in determining credit policy. Any sustained loss of gold was the signal for restrictive measures, whereas an increase in the gold supply indicated the propriety of some expansion. Such a policy was required if an international gold standard was to function effectively.

Although central banks must respond to a loss of gold reserves, they need not react similarly to an increase in gold. But even central banks are not entirely divorced from the profit motive. They frequently pay dividends to private stockholders, and they have expenses to meet. Without abandoning their role of lenders of last resort, they may and ordinarily do expand credit when their reserves expand.

2. *"Offsetting" by central banks.* Within the limits set by the reserve requirements, central banks may expand and contract their credit in order to stabilize the short-term money market. They act as a buffer to shield other banks from the effects of seasonal and accidental variations in the demand for funds. In respect to such short-time variations in the volume of credit, central banks may take the initiative and buy and sell in the open market, or they may adopt a passive attitude of standing ready to rediscount, reserving positive steps for dealing with the more fundamental changes.

3. *Stable employment.* During the 1920's, the Federal Reserve Board adopted the policy of regulating credit in the interest of stabilizing employment and business. This it did while still paying lip service, at least, to qualitative credit standards written into the Federal Reserve Act and embodied in the banking tradition of the times. During the decade of the 1920's it was commonly

² For a good exposition of this position, see Chapter IV of Lauchlin Currie's monograph on *The Supply and Control of Money in the United States*, 1934

believed that central bank credit policy could single-handedly provide adequate weapons to counteract cyclical fluctuations. The depression of the 1930's and the enormous expansion of credit on the basis of the government debt during World War II greatly weakened the confidence in the powers of central bank credit policy to combat both depression and inflation. Nevertheless it still is a necessary part of the devices available today to promote economic stability.

There is not too much agreement on the question of what monetary aims will best promote stability of employment. Perhaps one of the most frequently proposed aims is that of stabilization of the price level. Discussion of some of the difficult questions involved in such an aim will have to be postponed until a later chapter dealing with monetary policy.

THE CREDIT POLICIES OF THE FEDERAL RESERVE SYSTEM

We have examined the various instruments of credit policy available to the Federal Reserve System. There remain the standards of policy and the instruments of control that have actually been used.

Policy from 1914 to 1921. During the early years of the Federal Reserve System, credit policy was mainly passive. The reserve banks stood ready to assist members by rediscounting when necessary, but the need for rediscounting was largely overcome by the importation of gold from the warring countries. Between 1915 and 1918 the net excess of our gold imports was over \$1,000,000,000. Reserve banks frequently purchased bonds in the open market to increase their earning assets to a point where they might pay expenses and dividends.³

The entrance of the United States into the war brought a tremendous demand for bank credit expansion to float government bond issues, and reserve bank credit policy was shaped for the attainment of that end. Rediscount rates were maintained at low levels during the war and early postwar period. From 1917 to 1918 the rate on customers' notes (secured by government bonds) varied from 3 to 4¼ per cent. The banks were encouraged to lend to customers who wished to buy government bonds beyond the capacity of their current incomes. As a result the government

³ Reed, Harold L., *The Development of Federal Reserve Policy*, Boston, Houghton Mifflin Co., 1922, p. 250.

was able to float an enormous volume of bonds at low rates of interest. The reserve banks in turn rediscounted this war paper for members. On April 27, 1917, the total earning assets of the reserve banks were \$239,260,000. By November 29, 1918, they had grown to \$2,312,357,000. The great bulk of these assets consisted of "war paper."⁴ The pressure to maintain low rediscount rates for the benefit of governmental fiscal needs continued until after January, 1920.⁵ These easy money conditions fed the flames of the postwar boom which collapsed so disastrously in the middle of 1920. At the peak of the boom, the reserve banks were compelled to give consideration to the adequacy of their reserves, which approached the legal minimum limits. In 1919, even, the Board warned member banks against a policy of constant expansion of loans based on rediscounting at the reserve banks. Such warnings were largely unheeded and the expansion continued. In January 1920, before the downturn in business started, the Federal Reserve Banks raised their discount rates. In June the rate on commercial and agricultural paper was increased to 7 per cent by the reserve banks of New York, Chicago, and Minneapolis. During the ensuing period of liquidation the reserve banks turned their efforts to stemming the crisis. It was not until 1922 that the reserve authorities were able to develop anything in the way of independent standards of credit policy.

Development of Federal Reserve credit policy, 1921-1923. The world gold situation strongly influenced the credit policy of the Federal Reserve System during the 1920's. Between September 1920 and November 1924, net gold imports were a little over one and one-half billion dollars. This influx occurred at a time when the rest of the world was still off the gold standard, although a return to gold was generally anticipated. Therefore, although the gold imports swelled the gold reserves of the Federal Reserve banks, there was little disposition shown to utilize this gold as a base for credit expansion. Rather, stabilization of internal credit conditions became the policy. In July 1922, when the reserve ratio of the Federal Reserve Banks reached 79.2 per cent, the practice was begun of paying out gold certificates into circulation instead of Federal Reserve notes. The paper money

⁴ *Ibid.*, pp. 269, 274.

⁵ *Ibid.*, p. 301.

of the country flows through the reserve banks about two and one-half times per year. This makes it possible for the reserve banks to substitute gold certificates for Federal Reserve notes, and vice versa, in less than six months' time. The effect of this operation as undertaken by the reserve banks was purely psychological. It merely lowered the reserve ratios of the reserve banks and was supposed to have an anti-inflationary effect on the public mind.⁶

In spite of a determination to resist credit expansion based on gold imports the reserve banks were unable entirely to avoid it. Because member bank rediscounts and borrowings had fallen from \$2.8 billion in October 1920 to \$461 million in 1922, the reserve banks felt a need to replenish their earning assets. They therefore began to expand their open-market purchases of government securities.⁷ It was this action which led to the first steps in the creation of the Open-Market Committee. The first committee was made up of four governors (later five) of the Federal Reserve Banks and was designed to co-ordinate the open-market operations of the reserve banks and to prevent conflicts with government fiscal policy.

Early in 1923 the Board established an open-market committee (with the same membership as the previous one) to act as an *agency for the execution* of the open-market transactions of the reserve banks. It also established the policy "that the time, manner, character, and volume of open-market investments purchased by Federal Reserve Banks be governed with primary regard to the accommodation of commerce and business and the effect of such purchases or sales on the general credit situation."⁸ In the autumn of 1923 the committee set up an open-market investment account in which each reserve bank held a pro-rata interest. Since that time the open-market operations have been carried on through this account. Furthermore this marked the emergence of open-market operations as a prominent instrument of credit policy.

⁶ Burgess, W. R., *The Reserve Banks and the Money Market* (first edition), New York, Harper & Bros., 1927, pp. 257-258.

⁷ *Annual Report of the Federal Reserve Board*, 1923, p. 13. The reason given for increased bond purchases may be questioned in view of the recognized tendency for rediscounts to decline as fast as bond purchases rise. See Reed, Harold L., *Federal Reserve Policy, 1921-1930*, New York, McGraw-Hill Book Co., 1930, pp. 23-32.

⁸ *Annual Report of the Federal Reserve Board*, 1923, p. 16.

By 1923 the Federal Reserve Board felt impelled to draw up a statement of the rules of policy by which it chose to be governed. Briefly these rules were:

1. Reserve ratios were no longer serviceable as guides to credit policy since the United States was the only country on the gold standard. Gold movements, they wisely observed, no longer reflected price level changes in the various countries nor did they induce corrective price changes.
2. The stabilization of prices as a guide to policy was rejected on the grounds that price changes result from basic developments in business rather than merely from changes in bank credit. Hence not only would it be impossible to control prices through credit policy but also attempts to do so would result in action too belated for the best interests of business.
3. Federal Reserve credit should be utilized for accommodating productive activities but not for financing speculative or investment operations. Not only should reserve bank credit be used exclusively for productive purposes, but its volume should be so restricted as to be commensurate with increases in national productivity.
4. Tests for determining whether or not reserve bank credit is being put to productive use should include:
 - (a) Is credit being used to hold goods for speculative increases in prices?
 - (b) Are goods moving smoothly from producer to ultimate consumer without speculative interference?
 - (c) Does consumption keep up with the volume of trade, production, and employment?

In respect to the application of its rules of policy, the Board said

“that good credit administration in times of active business expansion should not encourage or assist the excessive accumulation of forward commitments in business and banking which only later on will definitely reflect the rate at which they have been taking place in resulting changes of credit volume and changes of price levels; and in times of business reaction should discourage enforced liquidation of past commitments.”⁹ In the same report it stated: “If industry and trade are in process of recovery after a period of reaction, they should be given support and encouragement of cheaper credit.”¹⁰

Credit policy, 1924-1929. There were three significant examples of attempts to use credit policy to meet important economic

⁹ *Annual Report of the Federal Reserve Board*, 1923, p. 32.

¹⁰ *Ibid.*, p. 10.

developments of the period. The first and second may be considered successful although they have been subjected to some criticism. The third was inadequate to accomplish the required results.

The year 1924 found business activity declining in the United States. The reserve banks therefore reduced their discount rates and purchased \$436,000,000 in securities in the open market. This easy money policy, supplemented by gold imports of over one-quarter of a billion dollars, was followed by an expansion of member bank credit of two and a half billions and by an increase in business activity. Again in 1927 a reaction in business was followed by an easy money policy and again business responded favorably.

In addition to the domestic slumps in 1924 and 1927, there were other considerations that called for an easy money policy. In 1924 England was preparing to restore the gold standard and her return to gold in 1925 was followed by a general return to gold in other countries of Europe. Easy money rates in the United States appeared justified as a means for aiding this desired movement. For example, England was preparing to resume the gold standard at the old par, although its internal price level remained high. Successful resumption would be facilitated by easy money here if: (1) it raised our price level somewhat, thus reducing the necessity for so much price deflation in England; or (2) it shifted some of the burden of international trade financing from the London money market to New York. Each of these results might have occurred. It was desirable that the accomplishment of currency and exchange stability be hastened, and the return to the gold standard by England and Germany would help in this respect. Furthermore, low money rates here stimulated the sale of foreign securities in this country. This in turn probably gave some support to the demand for our exportable farm commodities (whose prices were weakening) by reducing the strain of gold losses from the monetary systems of countries buying our exports.¹¹

The third occasion calling for the application of a sound credit policy was the boom of 1928 and 1929. This period presented some puzzling difficulties in the way of credit policy. Commodity prices were fairly stable, and there was little evidence of com-

¹¹ Reed, *op. cit.*, pp. 67-74.

modity speculation. At the same time a boom in stock prices developed. It was the opinion of reserve bank officials, particularly those of the New York Federal Reserve Bank, that control over the credit situation could be accomplished only by checking the expansion of reserve bank credit. The Federal Reserve Board held more to the opinion that credit control should be exercised by granting reserve bank credit to banks that were using credit only for productive purposes. The first opinion, therefore, leaned in the direction of control by the rediscount rate; the second opinion favored the use of discretion.¹²

During the first half of 1928, rediscount rates were raised from 3½ per cent to 4½ per cent, and securities were sold in the open market. Yet business prosperity continued and stock speculation increased. Banks increased their rediscounts in the face of the higher rates, indicating that the pressure exerted was inadequate to slow down the speculative trend.¹³

Early in 1929, the reserve banks wished again to advance the rediscount rates but were overruled by the Board, which was reluctant to increase the cost of credit to ordinary business and preferred to attempt to apply direct pressure upon member banks. The Board felt justified in this position since, contrary to the experiences of the 1919–1920 boom, there was little evidence of inventory accumulations. According to the Board's own rules of policy, bank credit was being used productively save for that part being diverted into the stock market. What the Board failed to see was that (1) consumers' inventories were expanding due to a sharp increase in installment credit; and (2) an unstable expansion of investment was going on in spite of the absence of evidence of commodity speculation. Furthermore, the Board's concern over the stock market boom appears to have been limited to the fear that credit facilities might not be available for legitimate business requirements. It appeared not to have been aware of the general inflationary consequences of the stock market boom.¹⁴ In keeping with this view, member banks that made excessive stock market loans were refused rediscount privileges. This attempt was at least partially successful in keeping down brokers' loans by banks

¹² Hardy, *op. cit.*, pp. 124–128.

¹³ *Ibid.*, pp. 128–132.

¹⁴ See Mints, Lloyd W., *A History of Banking Theory*, University of Chicago Press, 1945, pp. 267–268.

but was nullified by a great increase in loans by "others" (lenders other than bankers). This policy was abandoned about the middle of 1929 and the rediscount rates raised to 6 per cent, but the buying rate on bankers' acceptances was lowered to $5\frac{1}{8}$ per cent, with the result that members resorted to the sale of acceptances instead of rediscounting.¹⁵ By this time the stock market was so out of hand that rediscount rates had little effect. When the market collapsed in October 1929, the reserve banks came to the rescue by expanding open-market holdings of bonds and by rediscounting freely. Between October 23 and October 30, banks outside of New York City and "others" withdrew about \$2,000,000,000 in brokers' loans from the stock market. But the readiness of the reserve banks to lend aid prevented the development of a money panic.¹⁶ The reserve authorities were unable to choose between a desire to check stock market speculation and the fear of inducing a depression in business by an excessive increase in the cost of credit. Direct pressure was effective in preventing the direct use of reserve bank credit in the stock market, but loans by "others" nullified the effect of this restriction. The present law, which prevents banks from making loans for nonbanking firms on the security exchanges, will go far to strengthen the use of direct pressure.

Credit policy, 1930-1933. After the stock market collapse of 1929, the Federal Reserve System promptly adopted an easy money policy to combat the depression. The rediscount rate of the Federal Reserve Bank of New York was reduced from 6 per cent, where it stood in October 1929, to $4\frac{1}{2}$ per cent in the following November. By June 1930, it had fallen to $2\frac{1}{2}$ per cent and a year later stood at $1\frac{1}{2}$ per cent. In the meantime the reserve banks purchased U.S. securities in the open market in such an amount as to enable member banks to shrink their borrowings at the reserve banks to a negligible figure and even to accumulate a modest amount of excess reserves.

The ease in the money market received a setback during the European banking crisis of 1931. To meet a gold drain of over one-half billion dollars, member banks increased their borrowings at the reserve banks and sold a substantial amount of bankers' acceptances to the reserve banks.

¹⁵ Hardy, *op. cit.*, pp. 131-139.

¹⁶ Reed, *op. cit.*, p. 187.

An amendment to the Federal Reserve Act of February 1932 permitted U.S. securities to be pledged (temporarily) with the Federal Reserve agent, as collateral for Federal Reserve notes. This provided the reserve banks with much needed elbow room in their pursuit of their "easy money" policy. Previously the purchase of securities in the open market by the reserve banks, causing a decline in member bank borrowings and rediscounting, left the reserve banks with little except gold to use as collateral. Thereafter they expanded sharply their holdings of U.S. securities. These holdings stood at about 1.8 billion dollars until after the banking holiday of March 1933.

The hoarding and export of gold, which accompanied the developing panic among American banks late in 1932 and early 1933, reduced the reserve ratio of the Federal Reserve Banks to 45.3 per cent on March 3, causing the Federal Reserve Board to suspend reserve requirements for a 30-day period.

The general banking holiday was gradually terminated beginning March 12. So completely was confidence restored that pressure upon the banks was relieved. Money withdrawn for hoarding was returned to the banks for deposit. Member banks were able to liquidate about \$1,000,000,000 of their indebtedness to the reserve banks. The reserve banks again reduced their rediscount rates and expanded their open-market purchases of United States securities by over \$500,000,000, bringing their total holdings up to \$2,400,000,000, at which figure they remained until 1937. The year 1933 ended with rediscounts down to \$111,000,000 and member bank excess reserves at \$765,700,000.

Chart 13 reveals clearly the Federal Reserve credit policies of the 1930's. The rise in member bank borrowings (bills discounted) during the crises of 1931 and 1933 are clearly visible. Also the rise in open-market security holdings of the reserve banks and the consequent decline in bills discounted after the banking holiday of 1933 may be easily seen.

Credit policy after 1934—changes in reserve requirements. A most important development affecting the credit situation in 1934 was the reduction of the gold content of the dollar from 25.8 grains of nine-tenths fine gold, where it had stood since 1837, to 15 $\frac{5}{21}$ grains. This was accomplished by Presidential proclamation January 31, 1934, after the passage of the Gold Reserve Act of 1934. The stabilization of the value of the dollar at the new low

point was immediately followed by a rapid increase in the importation of gold. During the remainder of 1934 net gold imports were \$1,136,000,000. In 1935 they were \$1,739,000,000, and in 1936 \$1,116,000,000. By 1941 the monetary gold stock of the United States had increased by over \$15,000,000,000.

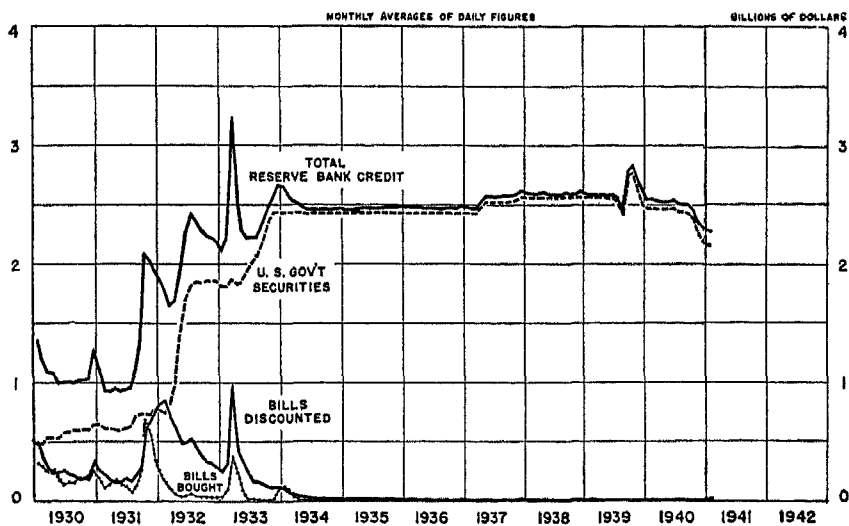


CHART 13. RESERVE BANK CREDIT (Courtesy of the Board of Governors of the Federal Reserve System.)

At the beginning of 1934, excess reserves of member banks were about \$765,000,000, an amount considered ample to provide the easy money conditions desired by the Board of Governors. The inflow of gold swelled the deposits of member banks and increased their excess reserves. During the latter part of 1935 and part of 1936 the reserves of member banks were about \$3,000,000,000 in excess of legal requirements. Both in business and in the banking community some uneasiness arose at the prospects of extreme inflation that might follow business recovery if such a vast volume of excess reserves were allowed to remain. Under the circumstances, the reserve banks themselves were powerless to control the situation (1) because the disposal of all of their government securities would have fallen far short of absorbing the excess reserves; and (2) because it was questionable whether or not such a large volume of securities could be dumped on the bond market without creating difficulties for the Treasury. On August 15, 1936, therefore, the Board of Governors put into effect a 50 per cent

increase in the legal reserve requirements. This reduced the excess reserves of member banks from \$3,260,000,000 to \$1,790,000,000.

Between August 15, 1936, and the end of February 1937, new gold imports of \$760,000,000 brought the excess reserves above the \$2,000,000,000 mark. The Board of Governors therefore raised the legal reserve requirements $33\frac{1}{3}$ per cent to bring the required reserve ratio to the maximum figure permitted by the law. This action reduced the excess reserves to about \$900,000,000. The anticipated increase in reserve requirements on May 1, when the total increase in requirements became effective, was accompanied by a reduction in government bond holdings of member banks and a weakening in government bond prices. To offset this effect somewhat, the Federal Reserve Banks increased their holdings of government securities by about \$100,000,000.

Treasury co-operation with credit policy—sterilization of gold imports. At the same time that the Board of Governors was raising reserve requirements in order to bring excess reserves of the member banks down to manageable proportions, the Treasury took steps to assist by checking the effects of further gold imports. Normally the Treasury purchases gold by drawing checks against its balances in the Federal Reserve Banks. Gold importers deposit these checks with member banks, which receive payment by having the proceeds added to their reserve accounts at the reserve banks. The Treasury then re-establishes its deposits with the reserve banks by depositing gold certificates issued against the newly purchased gold. On December 21, 1936, the Treasury announced a new policy of paying for gold purchases by selling Treasury bills to member banks and drawing against the proceeds. Member banks then received no new funds at the reserve banks but instead received Treasury bills, earning a low rate of interest. The Treasury refrained from issuing gold certificates against the newly purchased gold, and instead carried the gold in an "inactive account." The cost of this policy was relatively light since Treasury bills were selling at a very low rate of discount at the time.¹⁷

The policy, however, was relatively short lived. A sharp business recession developed during the last half of 1937 and early 1938 causing doubt as to the advisability of continuing a policy

¹⁷ Cf. *Federal Reserve Bulletin*, May 1938.

designed to restrict credit expansion. Moreover, gold exports reduced the excess reserves of member banks to about \$700,000,000. The Treasury therefore reversed its policy. It gradually released the impounded gold by issuing gold certificates, which were deposited with the reserve banks. The proceeds were used to retire Treasury bills held by the banks and excess reserves were allowed to rise. By April 15, 1938 excess reserves had risen to \$1,720,000,000, but the Board of Governors felt that the supply might well be increased further. Therefore, legal reserve requirements were reduced somewhat and \$750,000,000 more excess reserves resulted, bringing the total to about \$2,500,000,000.

This marked the end of the Treasury's attempts to aid in regulating the volume of bank reserves by its gold purchase policy. In 1947, however, with the inflation threat strengthened by the postwar inflow of gold amounting to over two billion dollars a year, the question was raised again as to the possibility of sterilizing such imports by Treasury action. It was proposed that the Treasury utilize surplus tax receipts to purchase gold, which would be placed in an inactive account.¹⁸ Nothing was actually done however.

The "flexible open-market portfolio" policy of 1939. Between 1933 and 1939 the open-market security holdings of the Federal reserve banks remained relatively stable at about 2.5 billion dollars. The purpose of such a volume of security holdings was the maintenance of an ample supply of excess reserves in order to keep interest rates low and to encourage business recovery. But the continued heavy imports of gold pushed the supply of excess reserves far beyond the requirements of the easy money policy. In 1939, the Open-Market Committee adopted a new policy designed to protect the market for government securities from "violent fluctuations of a speculative or panicky nature." To understand the reason for this shift in policy, it should be remembered that during this period the high volume of excess reserves left the reserve banks out of contact with the money market and therefore helpless to exercise their traditional function of controlling short-term interest rates. Furthermore, the threat of war and its actual outbreak on September 1, 1939, caused a sharp decline in prices of high-grade bonds. The Board of Governors

¹⁸ *New York Times*, November 27, 1947.

adopted the view that its best contribution to public interest under such circumstances was to maintain orderly conditions in the market for government securities. At the same time, the Board was careful to deny that it had either the duty or the power to maintain any given level of security prices. In justification of its new policy, the Board asserted that the maintenance of an orderly market for government securities would exert a highly desirable steadying influence on the whole capital market. Furthermore, it held that the interest of the member banks was at stake because of their vastly expanded holdings of government bonds. To supplement this policy, on September 1 the Board announced that all reserve banks would lend on government securities *at par* to both member and nonmember banks at the current rediscount rate. This move was designed to encourage banks to borrow funds, if in need, rather than to sell bonds on the market.

In conformance with its policy of supporting the market for government bonds, the reserve banks bought \$473,000,000 worth of such securities between August 28 and September 25, 1939, when the market was depressed. Later some of these securities were resold.

War finance and credit policy, 1940-1945. Between June 1940 and December 1945, the Federal Government raised about 380 billion dollars by taxation and borrowing. Of this sum, about ninety-five billions was obtained by selling securities to the banks. Consequently, during that period, adjusted demand deposits rose about forty-four billions and currency in circulation increased about twenty billion dollars. During this interval the reserve requirements of member banks increased by about 7.6 billions. Part of this increase, about 1.2 billions, resulted from an increase in requirements ordered by the Board of Governors when they restored required reserves to the maximum limit. The remainder resulted from the growth of deposits. This increase in reserve requirements and the increased money in circulation put a drain of about twenty-seven billions of dollars on the reserves of member banks. Although member banks entered the period with substantial amounts of excess reserves, they soon found it necessary to obtain funds from the Federal Reserve Banks.

To assist the Treasury to borrow at low cost, the Federal Reserve Bank discount rates were lowered to 1 per cent early in 1942. A little later in the year, to encourage member banks to purchase

short-maturing government securities, the discount rate on advances secured by such paper by the reserve banks was lowered to one-half of 1 per cent.

Actually, member banks made but little use of their rediscount and borrowing privileges. The reason was the development of a positive open-market policy, which made member bank borrowing largely unnecessary. After April 30, 1942, the reserve bank buying rate on Treasury bills was fixed at three-eighths of 1 per cent. This opened the way for member banks to purchase these bills, which were being issued regularly and in substantial quantities by the Treasury, and at any time to convert them into cash at the reserve banks. In addition, banks were given a repurchase option. Thus the "involuntary open-market purchases" of Treasury bills became a principal avenue through which Federal Reserve Bank credit reached the money market. In addition, the Open-Market Committee established the policy that open-market purchases and sales of other types of Government securities should be made from time to time for the purpose of maintaining the desired level of prices and yields and to maintain an adequate supply of funds in the market. The reserve banks were limited in making direct purchases from the Treasury to the amount of five billion dollars. In the pursuit of this policy of providing member banks with ample reserves and maintaining low interest rates for government borrowing, the Federal Reserve Banks added more than twenty-one billion dollars to their open-market portfolio of Government securities.

The dilemma of postwar credit policy. The low interest rate policy during the war assured the Government of adequate funds at minimum costs. Such a policy was entirely proper, for high interest rates on government borrowing during wars do not reduce significantly the need for credit expansion. Nevertheless, the tremendous size of the low-interest-bearing government debt created serious problems of credit control after the war.

One means used to keep down the average interest charges on the debt was the issue of vast amounts of short-dated obligations, which were mainly absorbed by the banking system. The rate on these obligations was held down by the simple expedient of having the Federal Reserve Banks support the price by purchases in the open market. The bank holdings of this short-term debt at the end of 1945 were as follows:

	<i>Total Outstanding</i>	<i>Held by the Federal Reserve Banks</i>	<i>Held by Com- mercial Banks</i>
Treasury bills (3 months)	\$17,037,000,000	\$12,831,000,000	\$2,476,000,000
Certificates of indebtedness (12 months)	38,155,000,000	8,364,000,000	18,091,000,000
Treasury notes (3 to 5 years) . .	22,967,000,000	2,120,000,000	15,701,000,000

Because the Federal Reserve authorities were sympathetic with the Treasury's desire to keep down the interest charges on the debt, they naturally wished to continue in the postwar period to stand ready to purchase these short-term obligations at prices giving a low yield. Only by so doing could they assure the Treasury of its being able to replace maturing obligations with new ones bearing the same low rates of interest. But in supporting the Treasury low-interest-rate policy, the reserve banks necessarily were providing commercial banks with cheap sources of cash reserve. The banks could sell Treasury bills and other short-dated paper in the market and the reserve banks necessarily stood ready to purchase whenever a decline in price threatened to endanger the existing pattern of interest rates. In providing the market with funds required to keep interest rates low on short-term Government securities, the reserve banks were providing an abundant and never-ending supply of reserve funds for use by banks in any way they saw fit.

The situation would not have been so troublesome had the war been followed by a period of depression and serious unemployment. But the inflation that actually materialized created a dilemma for the Federal Reserve authorities. They wished to maintain a low market rate of interest on the Government debt. At the same time, they recognized an acute need to impose anti-inflationary credit restraint on business. But so long as the Federal Reserve Banks supported the easy money rates for Treasury borrowing they were unable to impose restraint on the expansion of bank credit for business. Furthermore, should the market rates of interest be allowed to rise, long-term Government bonds, floated at low rates of interest, would fall in price. A disorganization of the Government bond market was, of course, to be avoided.

The problem was pointed up by two developments. During the latter part of 1945 and early 1946, banks showed a tendency to sell some of their holdings of short-term Government obligations

to the Federal Reserve Banks and use the proceeds to purchase long-term bonds.¹⁹ This "monetizing" of the long-term debt was profitable to the banks since they could dispose of Treasury bills yielding three-eighths of 1 per cent and purchase bonds that would yield something over 2 per cent. The possibility that this practice might reach large proportions constituted a serious additional inflationary threat, since sales of Treasury bills resulted in higher bank reserves. In the second place, the inflationary postwar expansion in business created a heavy demand for bank credit. Orthodox policy called for the imposition of restraint through higher interest rates. The low interest rate policy on government securities prevented the use of such restraint.

Proposals of the Board of Governors, 1945. In its *Annual Report* for the year 1945, the Board of Governors gave serious consideration to the problems of credit policy raised by the government debt. Proposals that the short-term interest rates on government obligations be allowed to rise were rejected by the Board at this time. It was not convinced that narrowing the spread between short- and long-term interest rates would be sufficient to eliminate the temptations for banks to sell short-term obligations and to replace them with longer-term bonds. Instead, the main effect would be to increase the interest earnings of commercial banks at the expense of the Treasury at a time when the banks were already enjoying high earnings from government securities. Second, the Board rejected the idea that a solution might be found in voluntary agreements with the banks to refrain from further monetization of the debt.

Instead, the Board made two drastic suggestions requiring added authority from Congress. The first of these was that the Board be given the authority to set maximum limits on the amount of long-term Government securities that banks could hold against their demand deposits. Thus it would have power to prevent further monetization of the debt by banks switching from short- to long-term holdings. Second, the Board proposed that it be authorized to require banks to hold Treasury bills and certificates of indebtedness in amounts equal to a certain percentage of their demand deposits. This would be the equivalent of requiring banks to carry a certain amount of secondary reserve against de-

¹⁹ *Annual Report of the Board of Governors of the Federal Reserve System*, 1946, p. 3.

mand deposits, and would have the effect of freezing a large part of the short-term government debt in the commercial banks at low rates of interest. Vault cash and excess reserves might be substituted for bills and certificates if the banks so desired. Such an arrangement would give the Treasury the benefit of continued low interest rates, would provide the banks with adequate earnings, and would make it possible for the Federal Reserve authorities to introduce control over short-term interest rates on nongovernmental paper.²⁰ In addition, the Board proposed that Congress expand its authority to raise reserve requirements. This proposal arose out of the fact that reserve requirements stood close to the maximum that the Board can now set. Power to increase requirements still further would considerably enhance the Board's ability to impose restraint on credit expansion.

The above proposals of the Board of Governors met with vigorous resistance on the part of bankers who felt that they were already the victims of excessive regulation. On the other hand, spokesmen for the bankers appeared to have little to offer in the way of alternative suggestions of a constructive nature except that interest rates on short-term government securities should be allowed to rise.

As the end of 1947 approached, the Board of Governors was still without effective powers to impose restraint upon the mounting credit structure that was feeding price inflation. Rather reluctantly, it requested Congress to restore its wartime power to regulate consumer credit. It also renewed its request for authority to require commercial banks to hold short-term Government obligations in amounts equal to a certain fraction of their demand deposits. In the absence of other anti-inflationary powers, it acted to bring about a rise in short-term interest rates when, in July, it abandoned its posted buying rate for Treasury bills of three-eighths of 1 per cent for all bills issued on or after July 10, 1947. This resulted in a gradual rise in the rate on Treasury bills which reached 0.88 per cent at the end of October. Accompanying this was a rise in the rate paid by the Treasury on its new issues

²⁰ For similar proposals, see L. H. Seltzer, "The Problem of Our Excessive Banking Reserves," *Journal of the American Statistical Association*, Mar. 1940, pp. 24-36. Also, Simeon E. Leland in "The Government, the Banks and the National Debt," *Commercial and Financial Chronicle*, January 17, 1946.

of certificates of indebtedness. This did not mean that the Federal Reserve System had abandoned all efforts to support the Government bond market. It still announced its intention to continue to purchase and hold Treasury bills as well as other Government securities in amounts deemed necessary to maintain an orderly market and to discharge its obligations with regard to the general credit situation.²¹ As a result of this rise in interest rates on Treasury issues, commercial banks began to increase the rate on commercial loans and bankers' acceptances. The Federal Reserve authorities, therefore, were able to impose mild control over the general money market. It is questionable whether such small increases in the money rates are effective in discouraging credit expansion. Banks still were able to convert their holdings of Government issues into cash reserves so long as the reserve banks continued to support the market, although at somewhat higher cost than before. But the cost of so doing could hardly be considered decisive. Perhaps the most promising aspect of the shift of Federal Reserve credit policy is the moral influence it may have on the commercial banks. Coupled with admonitions to go slow in extending credit during the boom, the policy may prove to have had practical effect.

Treasury anti-inflation action. During 1946, the Treasury took steps to reduce the debt somewhat by utilizing balances in member banks in order to retire Treasury bills and certificates of indebtedness. This process was merely one of reversing what had gone before. When the war ended the Treasury held very large balances in commercial banks, which had been acquired by borrowing. The use of these funds to retire part of the debt held by commercial banks extinguished altogether an equal amount of deposits. This might be called a preventative action since the funds used for payment were never actually in the hands of the public. But to the extent that the securities retired were held by the Federal Reserve Banks, the member banks found their reserve balances reduced by the amount retired. This led them to sell securities to the reserve banks to make up any resulting deficiency in reserves. Altogether the Treasury utilized over \$20,000,000,000 of its war loan deposit accounts for debt retire-

²¹ *Federal Reserve Bulletin*, July 1947, pp. 776-777.

ment with some sobering effect on the money market. The treasury continued to put some restraint on the market by utilizing excess tax revenues in a similar manner.

In spite of budgetary surpluses inflationary pressures continued throughout most of 1948. Consequently Congress, in August, granted the Board of Governors the right temporarily to raise reserve requirements by 4 per centage points on demand deposits and 1½ per cent on time deposits. Thereupon the Board raised requirements on demand deposits by 2 per cent and on time deposits 1½ per cent. It also temporarily reinstated Regulation W governing consumer credit under the act of Congress. Both of these temporary restraints were ended by expiration of authority in June, 1949.

Relaxation of credit restrictions, 1949. During the first quarter of 1949, there was a substantial decline in loans to business and in industrial production. The Board of Governors, therefore, undertook a number of measures to ease credit and monetary restraints. It first eased the restrictions of Regulation W governing the extension of consumer credit (the whole of Regulation W became inoperative after June 30, 1949, with the expiration of the Board's power to regulate consumer credit). Next it lowered margin requirements on loans for carrying listed stocks. In June 1949, the Open-Market Committee announced that in addition to its continuing policy of maintaining orderly conditions for government securities, it would engage in open-market purchases and sales with a primary regard to general business and credit conditions. This meant that it would aim at easing credit to offset the slackening of business. The Board of Governors also announced a reduction in reserve requirements for member banks. This reduction, spread over the months of April to September, reduced member bank requirements by about \$3.4 billion.

Can the Federal Reserve Banks regain effective control over bank credit expansion? There has been a tendency to dismiss central bank credit policy as inadequate to meet the stabilization requirements of modern times. Instead, governmental fiscal policy is held to be the only effective means for exercising control over the flow of money income and business activity. But the political character of fiscal policy leads to but halting and reluctant use of high taxes, reduced spending, and debt reduction, which are its principal anti-inflationary weapons. This was made

lows, therefore, that adequate and timely anti-inflationary measures require restraints of the kind that only central banks are able and likely to utilize. It must be recognized that in spite of real limits on the ability of central bank policy to induce expansion during severe depression, there can be little doubt as to its power to impose restraint upon credit expansion. The problem, then, is one of bringing central bank anti-inflationary measures into harmony with the problem of managing the public debt.

There are some very real difficulties in the way of restoring Federal Reserve control over credit. Indeed, to some students of the problem, they seem almost insurmountable. With the public debt of such vast size and with the banks such heavy holders of government securities, stable market rates of interest seem to be of first importance. Hence, conventional credit controls that tighten the money markets and drive interest rates higher must be abandoned and instead "maintaining orderly market conditions" for government securities becomes the primary aim of central bank policy.²²

The desire to maintain stable and low interest rates on Government securities stems from the wish both to keep down the burden of interest charges and to avoid a drop in prices of Government long-term bonds. The latter motive is perhaps the more important of the two. There is the possible danger that a rise in the market rate of interest, which would cause some decline in the price of long-term bonds, might generate a wave of selling by banks and other institutional investors bent on shifting out before higher yields and still lower prices become a reality. A mild tendency of this sort developed in the last quarter of 1947 when uncertainty as to how much interest rates might rise led to considerable selling of Treasury bonds to protect the sellers' profits arising from earlier increases in Government bond prices, or to avoid actual losses.²³ Should such a movement induce a severe demoralization of the market for Government bonds, the situation would obviously be most undesirable.

The seriousness of the threat of market demoralization arising from a moderate rise in yield on Government bonds has probably

²² Cf. John H. Williams, "Free Enterprise and Full Employment," in *Financing American Prosperity, a Symposium of Economists*, pp. 381-383, Twentieth Century Fund, 1945.

²³ *Thirty-third Annual Report*, Federal Reserve Bank of New York, 1947, p. 30.

been overemphasized. Banks and other investors, adequately fortified with other liquid assets, must consider their Government bonds as a fairly permanent part of their investment holdings. To be sure, some may attempt to realize paper profits accruing from previous increases in the price of bonds, when lower bond prices are anticipated. Moreover, there is some incentive to switch from long-term to short-term securities in anticipation of higher yields and lower prices on long-term securities. Nevertheless, it is highly doubtful that such investors actually would embark on a widespread movement of liquidation of long-term bonds at prices much below par on the speculative chance that they could profit by later reinvestment at higher yields. Some support for this view is found in the behavior of reporting member banks during the year 1920. In the face of rising rediscount rates and higher market rates of interest, and when long-term bond prices were declining substantially, these banks *increased* slightly their holdings of Government bonds. Moreover, so long as the Treasury does not need to expand the public-held long-term debt, it appears likely that a modest increase in the market rate of interest and some tightening of commercial bank credit would cause but little change in the yield and in the price of Government bonds. Although conditions now are not strictly comparable to those of the late 1920's, it is perhaps significant that in January 1928, when prime commercial paper rates in New York were 4 per cent, the yield on Treasury bonds was 3.35. One year later, January 1929, commercial paper rates were $5\frac{1}{4}$ to $5\frac{1}{2}$ per cent, and the yield on Treasury bonds stood at 3.59. In October 1929, commercial paper rates were $6\frac{1}{4}$ per cent and the yield on Treasury bonds was 3.67 per cent. This would indicate that whereas some relationship is to be expected between the changes in short-term money rates and the yield (and prices) of Government bonds, it is in fact a very mild one.

One may properly conclude that there is less reason than often supposed for avoiding a tightening of the money market and a rise in short-term money rates as a means of dampening down inflation. If this is true, the restoration of control over short-term interest rates and the availability of credit may be less difficult than has been commonly believed. Certainly more forceful restrictions might have been imposed in 1947-1948 than were actually used without bringing disaster in the money markets.

Under the Treasury-Federal Reserve "accord" of March, 1951, the Federal Reserve reasserted its influence in the money market by withdrawing its general support in both the long and short-term government security markets. It did continue occasional intervention to aid Treasury refunding operations and to meet seasonal needs. No panic or collapse resulted! To quote the Board, "Holders did not force bonds on the market; either they did not sell or they found buyers other than the Federal Reserve."

Questions for Study

1. What is the difference between qualitative and quantitative standards of central bank credit policy? How does one account for the growth in preference for quantitative standards? Where does the interest in selective controls fit into the picture?
2. What is "offsetting" by central banks? This term has frequently been used in connection with central bank practices of offsetting the effects of gold imports and exports in gold standard countries. How would this work?
3. What, in general, appears to have been the credit policy of the years 1914-1921? How did the Federal Reserve credit policy of World War I resemble that of World War II? In what ways were the practices sharply different?
4. The first development of an independent credit policy came in the 1920's. During this period what particular policy developments arose in connection with the following.
 - a) The inflow of gold in the early 1920's.
 - b) The enunciated rule of 1923.
 - c) The depression years of 1924 and 1927.
 - d) The efforts to check the stock-market boom of 1928-1929.
5. Compare the attitude of the Federal Reserve Board in 1929 to that of the Board of Governors in 1948. In what respect were they similar?
6. Examine Chart 13. Can you trace the development of credit policy through the depression? Note the opposite movement of bills discounted and U.S. Government securities. Can you explain this?
7. Can you explain why and how the Treasury sterilized gold imports in 1936-1937?
8. Why was the "flexible open market portfolio" policy adopted in 1939? How did it differ from the postwar policy of supporting the price of government securities?
9. How was an easy-money policy achieved for financing World War II?

10. How justify the low-interest rate policy during the war?
11. How did it create an inflationary problem after the war?
12. Why was there an inflationary threat when banks sold Treasury bills to the Federal Reserve Banks to get funds to purchase higher-yield long-terms?
13. What was the special secondary reserve proposal designed to freeze short-term governments in bank portfolios? What dual advantages would have resulted?
14. What were the postwar anti-inflation steps taken by the Treasury? Why were they largely ineffective?
15. What reason exists for believing that Treasury fiscal policy is unlikely to be an effective brake on inflation? What does this mean as to the need for effective central bank credit policy?
16. How does conventional credit policy conflict with one mainly concerned with maintaining orderly conditions in the government bond market?
17. What are some reasons for and against the view that a rise in short-term interest rates may precipitate a serious wave of selling of long-term government securities?

Part VI

The Value of Money

Price Movements and Their Consequences

THE CENTRAL THEME IN THE STUDY OF MONETARY PROBLEMS IS THE behavior of prices. Some method of measuring average price movements is needed both for analyzing causes and as guides in the attempt to modify and control the movement of prices. The basic monetary problem, as it relates to economic welfare, arises from the difference in the pace and magnitude of changes which occur among prices of different types. The cost of living of wage earners, wholesale prices, agricultural prices, and durable goods prices, to mention a few, show considerable divergence in their movements. Index numbers that measure particular groups of prices are, therefore, of vital importance if factual data are to be used to enlighten the study of monetary problems.

THE MEASUREMENT OF PRICE CHANGES

The index number as a device for measuring price movements. The index number is a device that permits measuring the average behavior of a number of individual prices. Its practical usefulness derives from the fact that prices have some tendency to cluster together so that a movement in the price index may be taken as indicative of a similar movement in the bulk of the particular prices that are included in the index. If a price index be made too broad and all-inclusive, so that it averages too wide a variety of prices, its movements will show but little of practical use in respect to relative movements of different types. It is this relative movement of prices that is important. A broad index, such as Snyder's general price index, conceals important relative movements of the several groups of prices, and for this reason has less practical value than the more specialized types of index.

The choice of prices to be measured. The use to be made of an index number must largely govern the particular group of commodities whose prices are to be measured. For example, if the need is for a measure of changes in the cost of living of workingmen, the index must be based upon such things as the retail cost of food, clothing, shelter, and fuel of the type used by such individuals. Not only will such an index contain a somewhat different list of commodities from that of an index designed to measure living costs of business and professional groups, but it will also differ for workingmen in different geographical areas. On the other hand, if the price index is designed to measure price changes most important to the profit prospects of businessmen, it must be based largely on the prices of commodities at wholesale. Such an index is fairly sensitive to cyclical change and is, therefore, of more use than cost-of-living index numbers for discovering cyclical developments. Of even greater use for discerning cyclical price changes is the special group of commodities whose prices are sensitive to cyclical changes in business. Such commodities include farm products, rubber, silk, crude petroleum, and the like. Index numbers of prices of such raw materials are, therefore, highly sensitive to cyclical change. Students of the problem of international trade, on the other hand, are concerned with the behavior of price indexes of imported and exported goods.

Numerous specialized index numbers are used to measure the changing price trends for narrow groups of commodities. Such specialized indexes are of interest both to businessmen whose economic welfare is bound up with the behavior of such prices and to students of general business fluctuations. The latter are especially interested in the relative movements of different groups of prices as they bear upon the basic economic situation. The multiplicity of such specialized index numbers of prices may be seen by examining the list currently carried by the *Federal Reserve Bulletin*. Index numbers of wholesale prices published in the *Bulletin* are compiled by the Bureau of Labor Statistics, and are constructed for separate groups of commodities and combined into a general wholesale price index based, in 1949, upon 850 separate commodities.¹

¹ Groups and sub-groups of commodities entering into the Bureau of Labor Statistics wholesale price index and for which separate index numbers are published:

Measuring the purchasing power of money. Both theoretical and practical difficulties are presented by any attempt to make an index number that properly measures the purchasing power of money in a broad sense.² Theoretically, there is the question of what, precisely, should be the prices covered by such an index. It is sometimes argued that the most significant index of the purchasing power of money is one that would include only prices of things that enter into *final consumption*, weighted in proportion to the amount of money income spent for each by the consuming public.³ Thus, prices of capital goods, securities, real estate, goods at wholesale, and the like, would be excluded, for they do not constitute a part of the consumers' goods purchased by the

Farm products	Foods
Grains	Dairy products
Live stock and poultry	Cereal products
Other farm products	Fruit and vegetables
	Meats
Hides and leather products	Other foods
Shoes	
Hides and skins	Building materials
Leather	Brick and tile
Other leather products	Cement
	Lumber
Textile products	Paint and paint materials
Clothing	Plumbing and heating
Cotton goods	Structural steel
Hosiery and underwear	Other building materials
Rayon	
Silk	Chemicals and drugs
Woolen and worsted goods	Chemicals
Other textile products	Drugs and pharmaceuticals
	Fertilizer materials
Fuel and lighting materials	Mixed fertilizers
Anthracite	Oils and fats
Bituminous coal	
Coke	Housefurnishing goods
Electricity	Furnishings
Gas	Furniture
Petroleum products	
	Miscellaneous products
Metals and metal products	Auto tires and tubes
Agricultural implements	Cattle feed
Iron and steel	Paper and pulp
Motor vehicles	Rubber, crude
Nonferrous metals	Other miscellaneous products
Plumbing and heating	

² The price index is the reciprocal of the purchasing power of money over those commodities included in the index.

³ Cf. Keynes, J. M., *Treatise on Money*, New York, Harcourt, Brace & Co., 1930 Vol. I, pp. 54, 57-58.

public. The justification for such a view rests on the belief that greater significance attaches to changes in the buying power of the consumer's dollar than to changes in the buying power of money held by businessmen. On the other hand, a case may be made for the creation of a comprehensive index embodying the prices of everything bought or sold by the use of money. Such an index number measures the purchasing power of money *for all uses*. This is in sharp contrast to an index designed to measure only the price level of consumers' goods alone. If one is seeking a measure of the average purchasing power of money in the hands of all types of users, when spent over the whole range of purchases and settlements made with money, this comprehensive type of index is desirable. On the other hand, it is difficult to visualize any practical use for such an index number except to verify, through statistical measurement, the theoretical proposition embodied in the "equation of exchange" ($MV = PT$), that the amount of money spent equals the value of all the transactions settled by the exchange of money.⁴ The practical problems that attach to the construction of such an index are: (1) the discovery and assembly of a sufficiently wide range of price data to cover the desired range of prices; and (2) the determination of the proper weight to be applied to each of the items. The statistical work involved in the construction of such an index number is, of course, considerable.

The construction of index numbers of prices. The technical method of construction of index numbers involves complex statistical processes the details of which need not detain us here. It is appropriate, however, to mention briefly some of the outstanding problems that arise in making index numbers, for an awareness of these problems will be of help in using and interpreting index numbers as well as in understanding their limitations:

⁴ Such an index of prices was calculated by Carl Snyder. For a description of this index, see his "Measure of the General Price Level," *Review of Economic Statistics*, February 1928. The items he included in his revised index and the weight assigned to each were as follows:

Industrial commodity prices at		Realty values	10
wholesale	10	Security prices	10
Farm prices at the farm	10	Equipment and machinery prices ..	10
Retail food prices	10	Hardware prices	3
Rents	5	Automobile prices ...	2
Other costs of living items	10	Composite wages	15
Transportation costs	5		

1. The selection of the general group or class of prices to be measured.
2. The choice of the particular commodities whose price movements may be taken as representative of the price movements of the general group or class.
3. The collection of data on prices of the chosen commodities.
4. The choice of a base period with the prices of which the prices of any given year or years are to be compared.
5. The calculation of a properly weighted average of prices, or index number, showing a comparison with the base.

The selection of the general group of prices for measurement by the index number will depend on the purpose for which the index is wanted. Since it would obviously be difficult to include all possible commodities, sample commodities must be chosen to represent the general group. Expediency demands that the size of the sample be kept as small as is consistent with reasonable accuracy. So far as possible, basic commodities are used, because their price fluctuations are representative of the price movements of closely related commodities. To get proper quotations on prices of commodities sold in different markets requires the choice of a sample from each of the several quotations. For example, the Bureau of Labor Statistics obtains its price quotations on a particular commodity from a number of sources considered representative of the whole market, and these sample prices are averaged. The large numbers of unstandardized commodities that result from brands and product differentiation present complications. This fact is illustrated by the problem of choosing representative prices of motor cars.⁵

Collection of adequate price data is relatively easy in the case of staple commodities traded in on organized exchanges. It is difficult where trading is mainly in the form of private transactions in which higgling plays a part. Similarly, retail price data on any comprehensive basis present difficulties.

The choice of the base period. The ordinary index number is a percentage comparison of the average prices of a given year with the average prices of the base period or base year. A near base is more desirable than a remote base for several reasons.

⁵ For a brief description of this problem, see an article by Ethelbert Stewart in the *Monthly Labor Review*, December 1927, pp. 46-52. Also see "Revised Method of Calculation of the Bureau of Labor Statistics Wholesale Price Index," *Journal of the American Statistical Association*, December 1937.

First, it is easier to visualize price variations as percentages of a near base. For example, if one wishes to follow the movements of prices during the years 1948, 1949, and 1950, an index that compares those prices with the prices of 1939 would be more easily comprehended than one that compares those prices with prices of the year 1926 or 1913. The advantage of such an index over one based upon 1890 is even more marked. Second, remote base years make more difficult the task of including in the index important new commodities that may not have existed in the base year and the proper weighting of old ones. In contrast, a near base makes possible the construction of an index giving a more valid picture of recent price changes. Yet another reason for preferring a near instead of a remote base is the tendency for errors and biases, which exist in even the most carefully constructed index numbers, to be exaggerated as the base becomes more remote.

The method of construction of index numbers. An index number is useful only if it presents a reasonably true picture of the behavior of the group of prices which it represents. To furnish a correct picture, it must be properly constructed. The theory behind the proper construction of index numbers is a complex one and need not concern us here. ' Our purpose will be sufficiently served if we examine briefly the most common methods in actual use.

The simple arithmetical average of price relatives is one common type of price index. The manner of calculating such an index may be easily seen. Let us suppose that we first construct an index number that will show the relative changes in price of a single commodity such as wheat, taking the average price of wheat during the year 1926 as the basis of comparison. The average price of wheat during 1927 may be compared with the average price of wheat in 1926 by calculating the percentage of the 1927 price to the price in 1926. Thus, if wheat in 1926 were \$1.00 per bushel and if a similar grade of wheat in 1927 were \$.95 per bushel, the 1927 price would be 95 per cent of the 1926 or base year price. Similar calculations for subsequent years would give a series of percentages showing the relationship of the price of wheat for each given year to the price of wheat in 1926. This series of percentages, beginning with the year 1926 as 100, comprises an index number of the price of wheat. Similar index numbers of the

prices of other commodities can be constructed in the same way. The simplest method of combining these indexes of individual prices to form a general price index is to find the arithmetical average of the percentages for each year. The resulting average is then taken as the index number for the group of commodities. This is illustrated in Table 21.

TABLE 21

INDEX NUMBER BASED UPON PRICE RELATIVES				
1926			1927	
Commodity	Price	Percentage Ratio to 1926 Price	Price	Percentage Ratio to 1926 Price
Wheat	\$1.00 per bu.	100	\$.95 per bu.	95
Butter . . . . .	.40 per lb.	100	.36 per lb.	90
Wool . . . . .	.14 per lb.	100	.21 per lb.	150
Coal	4.00 per ton	100	3.24 per ton	81
		4)400		4)416
Index for 1926 price		100	Index for 1927 price ..	104

The simple arithmetical average of price relatives provides an index number which is simple to calculate and is in common use. The wholesale price indexes of the London *Economist* and the London *Statist* are examples of this type of index.⁶ But this type of index has certain serious defects. First, it measures imperfectly the purchasing power of money, because it fails to take into account the differences in importance of the different commodities. The price movements of each commodity have the same weight in the final average as those of every other commodity. But some commodities obviously are of more importance than others and should therefore exert more influence in the index number. A make-shift remedy for this defect may be achieved by introducing the more important commodities more than once. For example, to include both wheat and flour would increase the weight of changes in the price of wheat, for wheat and flour prices tend to move together.

A second characteristic of index numbers constructed from arithmetical averages of price relatives is their upward bias. This

⁶ Fisher, Irving, *The Making of Index Numbers*, Houghton Mifflin Co., Boston, 1927, p. 29.

means that prices that move upward exert more influence in the index number than do those which move downward. The reason for this lies in the peculiar nature of percentages that may rise to unlimited heights but cannot fall more than from 100 to zero. If, therefore, compared with the base year the price of one commodity doubled, its price relative would be 200. If at the same time the price of another commodity were cut in half, its price relative would be only 50. In the final arithmetical average of the price relatives, the effect of doubling one price is much greater than the effect of cutting the other in half. But to the ordinary observer it would seem that the movement of one price canceled the other. The index number, however, would show that average prices had increased.⁷

The aggregate type of index number. In constructing its wholesale price index, the Bureau of Labor Statistics has adopted a method that furnishes a practical solution to the problems of weighting and minimizing biases. The average base year price of each of the 850 commodities used in this index is multiplied by the quantity of the commodity marketed during a given representative period. The average price for the given year for which a comparison with the base year is to be made is also multiplied by the same quantity. This gives, for each commodity, the value of the amount sold (1) at the base year price; and (2) at the given year price. The total value of all commodities at the given year price is then compared with the total value of all commodities at the base year price. The result is a percentage figure, which is the index number. To put it in another way, the index number is the percentage relationship between the values of a given bill of goods at the given year and the base year prices. This is illustrated in Table 22.

The formula for the construction of this type of index number is:

$$\frac{\sum p_1 q}{\sum p_0 q}$$

when p_0 is the price of each commodity in the base year,
 p_1 is the price of each commodity in the given year, and
 q is a representative quantity of each commodity.

⁷ To avoid this upward bias the geometric mean may be used. This mean is calculated by multiplying the price relatives together and extracting the n th root. Cf. Fisher, *The Making of Index Numbers*, pp. 33-34.

TABLE 22

AGGREGATE-TYPE INDEX NUMBER

Commodity	BASE YEAR			GIVEN YEAR		
	Price	Quantity	Total Value	Price	Quantity	Total Value
Wheat	\$1.00	× 400,000,000 bu.	= \$ 400,000,000	\$.95	× 400,000,000 bu.	= \$ 380,000,000
Butter .....	.40	× 1,500,000,000 lb.	= 600,000,000	.36	× 1,500,000,000 lb.	= 540,000,000
Wool .....	.14	× 400,000,000 lb.	= 56,000,000	.21	× 400,000,000 lb.	= 84,000,000
Coal	4.00	× 300,000,000 tons	= 1,200,000,000	3.24	× 300,000,000 tons	= 972,000,000
Aggregate value at base year prices			= \$2,256,000,000	Aggregate value at given year prices		= \$1,976,000,000
Index number, percentage of given year aggregate of base year aggregate			100			87.5

PRICE DISPERSION

A rise or fall in the price level results from the movement of the mass of individual prices that make up the general average. But by no means does it follow that particular or individual prices move in proportion to movements of the general price level. On the contrary, some individual price movements exceed and others are less than the movement of the general average. This is true both of price movements of a long-run or secular nature and of short-run or cyclical price changes.

This tendency of individual prices to scatter, called *price dispersion*, is at the root of many problems that pertain to money and prices. Especially is this true of cyclical price changes. If all prices moved together at the same time and in the same proportion, costs of production would remain in line with selling prices, and disturbances to business enterprise resulting from general price changes would be greatly reduced.

Dispersion of individual prices. The tendency of individual prices to scatter in the face of long-run general price changes may be easily seen in Chart 14. The average annual rate of change in price of each of a selected group of commodities is shown for the period 1896-1913. This dispersion of prices, which persists over a long period of years, is mainly due to basic changes in the demand for the different commodities and in their costs of production. It is but little affected by the monetary and other forces

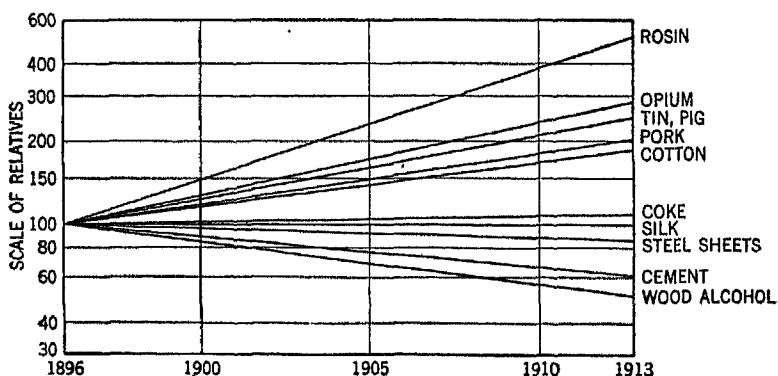


CHART 14. LINES OF TREND MEASURING THE AVERAGE ANNUAL RATES OF CHANGE IN INDIVIDUAL COMMODITY PRICES BETWEEN 1896 AND 1913. From Mills, F. C., *The Behavior of Prices*, 1927, p. 68. (Courtesy of the National Bureau of Economic Research, Inc.).

that caused an increase in average wholesale prices from 66 to 100 (1913 = 100).⁸

Not only is there marked long-run dispersion among the prices of individual commodities, but also groups of prices show differences in behavior. Chart 15 shows both the secular and the cyclical dispersion among wholesale prices, retail prices, general prices, and wages for the years 1860-1934. Charts 16, 16a, and 16b show the dispersion among different groups of prices during the depression and recovery period 1929-1936 and the war and postwar period 1939-1949.

Considerable interest now exists in the differences in behavior of prices of various commodities during depression and recovery. During depressions, some prices fall sharply while others show but little change. Those commodities whose prices move widely are called "sensitive," and those whose prices move but little are called "insensitive." The reason for such marked differences in behavior has been responsible for no little discussion, with which we are not directly concerned at this time.

THE EFFECTS OF CHANGES IN THE PRICE LEVEL

Economic disturbances provoked by changes in the general level of prices arise mainly from the failure of incomes, debts, and individual commodity prices to change proportionally. In the preceding section, we examined briefly the dispersion in movement that takes place among different types of prices. The effects of such price dispersion will next occupy our attention. These effects fall into two categories: (1) modifications in the distributions of wealth and income; and (2) the effect on business activity.

General price movements are of two general types: short-run or cyclical changes, and long-run or secular changes. Cyclical price changes are associated with the up-and-down swings of the business cycle. Such price movements are of varying magnitude, depending upon the intensity of the cycle, and contribute to the cyclical fluctuations in the level of business profits. Furthermore, during more acute cyclical changes, price fluctuations may be large enough to create violent shifts in the distribution of income, be-

⁸ Cf. Mills, Frederick C., *The Behavior of Prices*, New York, National Bureau of Economic Research, 1927, pp. 65-69, for a discussion of differences in trends of individual prices.

stowing largess upon one group at the expense of others. During wartime inflation, the rise in prices is essentially cyclical in nature but more violent than the usual peacetime cyclical price increases. Long-run or secular price movements, on the other hand, are the changes in price levels over a period of time covering several cycli-

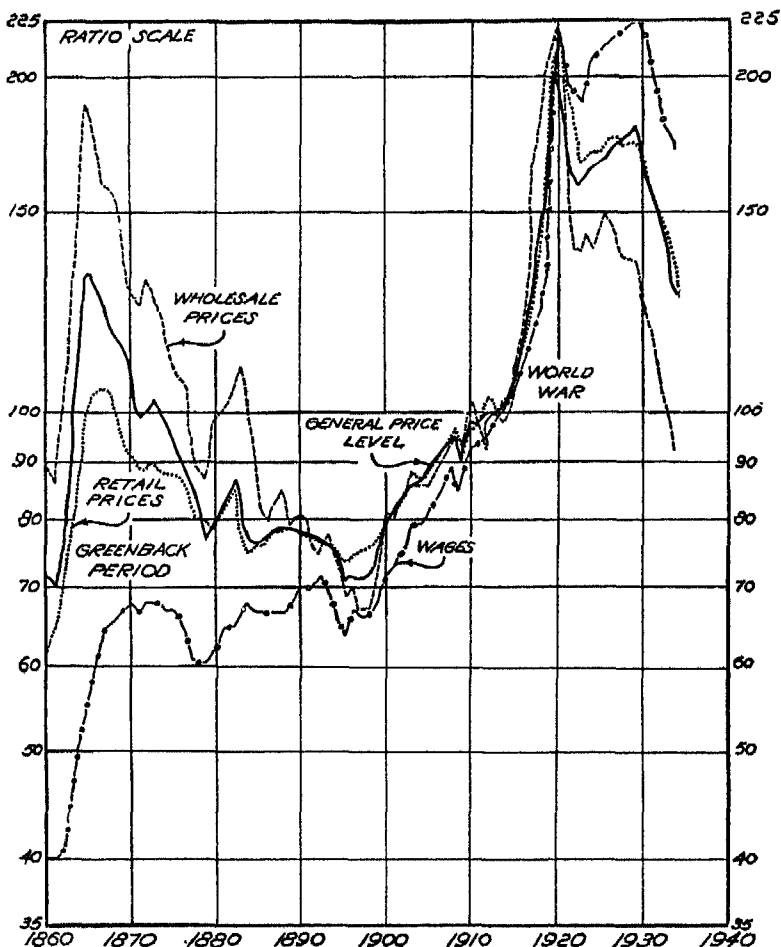


CHART 15. GENERAL PRICE LEVEL IN THE UNITED STATES, WITH THREE LEADING COMPONENTS ANNUALLY FROM 1860. 1913 = 100. Source: *The American Economic Review*, September, 1934, p. 390. (Courtesy of Carl Snyder.)

cal movements. For example, if during a certain period of time the low point of prices in each succeeding depression and the high point in each succeeding boom tend to rise, the secular trend of prices is upward. When the secular trend of prices is downward,

succeeding cyclical troughs and peaks of prices become progressively lower with the passing of time.

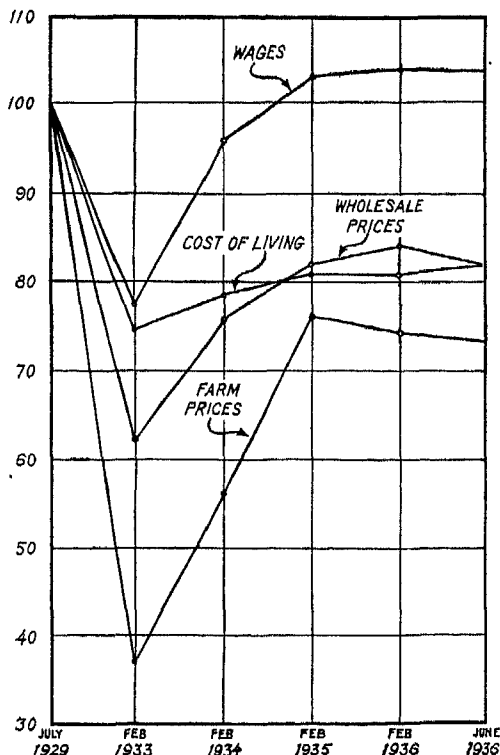


CHART 16. MOVEMENT OF PRICES DURING RECESSION AND RECOVERY. Source: Mills, *Prices in Recession and Recovery*, p. 14.

Effects of price changes upon income distribution between debtors and creditors. One may hardly attempt to justify the particular distribution of wealth and income that exists at any one time in economic society. But one may, nevertheless, very properly object to capricious shifts in the existing distribution induced by changes in the price level. Yet such a change does occur whenever the price level rises or falls to any appreciable extent.

It is well recognized that rising prices, for instance, tend to enrich debtors at the expense of the creditors. Because debts call for the repayment of a given number of dollars, a rise in prices almost certainly will reduce the buying power of creditors' fixed money receipts. On the other hand, unless pursued by unusually bad fortune, the debtor will find repayment easier than before

because of a rise in the money value of anything he has to sell. Falling prices have just the opposite result. The fixed incomes of creditors grow in purchasing power while the luckless debtor finds

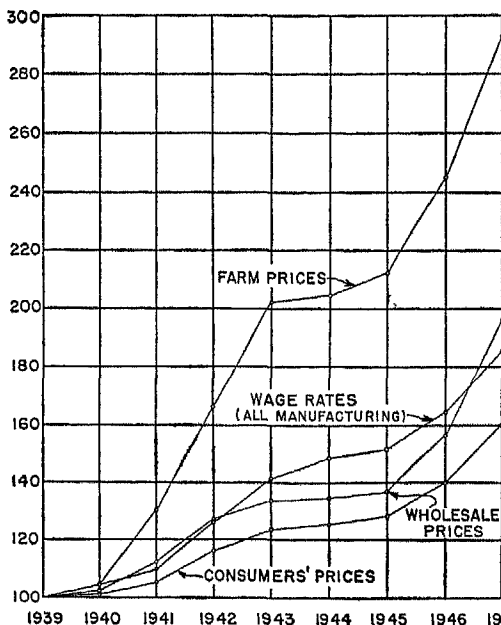


CHART 16a. MOVEMENT OF PRICES DURING WAR AND POSTWAR PERIOD. Source: "The Structure of Postwar Prices," Frederick C. Mills, *Occasional Paper 27*, National Bureau of Economic Research, Inc., 1948, p. 40 and *Monthly Labor Review*.

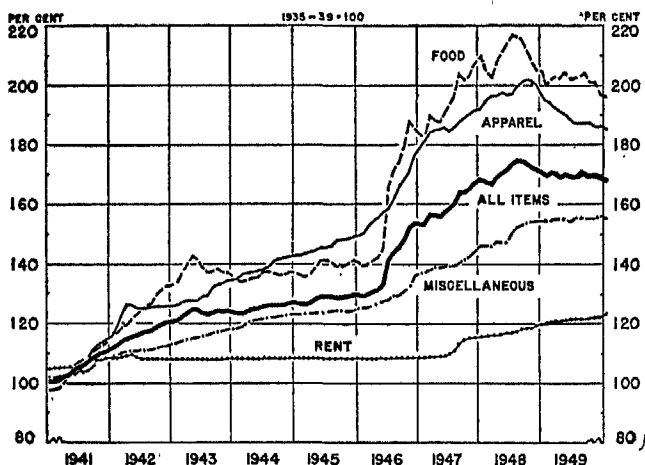


CHART 16b.* CONSUMERS' PRICES. Source: *Monthly Review*, Federal Reserve Bank of New York, March, 1950.

* Bureau of Labor Statistics indexes. "All items" includes housefurnishings, fuel, and miscellaneous groups not shown separately. Midmonth figures; latest shown are for a January.

his money income shrinking in the face of rigid and irreducible debts. Nor may one properly argue that the self-reversing tendencies of prices will eventually restore the losses and lead to ultimate justice. Upswings in prices, whether cyclical or secular, are not necessarily followed by equal and corresponding downswings. Furthermore, new debt structures involving new individuals and adjusted to the new price levels follow any marked changes in prices. During a period of low prices that follows an earlier high price period, new debts are created and old debts are adjusted to the lower price level. To hope that a subsequent rise in prices would correct the injustices of the falling prices would be to disregard the new injustices that rising prices would heap upon the heads of a new set of innocent creditors.

When price inflation takes extreme forms, as it did in parts of Europe after World War I, old debt structures may be almost completely extinguished. This occurred in Germany in 1921-1923, when the paper mark fell to one-trillionth of its gold value. Such results are especially damaging to small and middle-class savers holding savings bank deposits and bonds. Thrift becomes a mockery in the face of acute inflation.

On the other hand, extreme deflation, such as occurred after 1929, may be so severe as to wipe out altogether the equity of debtors in their property and to result in the transference of ownership to the creditors. The plight of many American farmers during the Great Depression well illustrates this fact.

The effects of price changes upon business incomes. Incomes of businessmen are residual in nature. After their contractual obligations in the way of wages, material costs, and debts are met, the remainder goes to the businessman as his share. Anything that increases or decreases the gross income of a business, without causing a proportional increase in its expenses or costs, will expand or contract, as the case may be, the size of the residual amount going to the owners. A rise or fall in the level of commodity prices tends directly to increase or decrease the gross income of business. At the same time, some costs—for instance, raw materials—will also change. But some important costs are “sticky” and respond slowly to the movement of commodity prices. Sticky costs are those controlled by custom, legal regulation, monopoly, and long-term contracts. Although by no means absolutely inflexible, these costs adjust slowly to the general commodity price

situation. During rising prices, interest and principal payments on pre-existing debts are unaffected. The cost of public utility and transport services can increase only after the adjustments in rates can be wheedled out of regulatory commissions. Wages, which constitute the most important single cost of many industrial firms, also tend to be adjusted belatedly to the rising price level. Altogether, these lagging costs enable businessmen to enjoy profits which rise faster than the price level. These excessive gains are sometimes referred to as *windfall* profits, to indicate that they are the result of the fortuitous circumstance of a rising price level instead of a reward for efficient management and meritorious anticipation of economic trends. Not only do windfall profits result in unjust enrichment of the businessman at the expense of other income getters, but also they encourage overexpansion of investment and booms.

Not all businessmen, however, are in a position to profit excessively from rising prices. This is particularly true of business enterprises whose prices or rates are subject to public control. Costs of such firms rise with rising general prices, yet rates charged for their services can be raised only when the regulating authority gives consent.

Just as rising prices with lagging costs give windfall gains, so falling prices with lagging costs result in windfall losses. Interest rates and wages are difficult to bring down, and their stickiness in times of falling commodity prices results in undeserved losses. To be sure, if invention and improved industrial technique were causing a fall in money costs that corresponds to the fall in prices, the change in prices would not be objectionable. But, as a practical matter, one can hardly expect any uncontrolled price movement to meet this exacting requirement.

The effect of changing prices on wage earners. Because changes in wage rates tend to lag behind changes in commodity prices, workingmen find that the real value of their hourly wages tends to fall as prices rise. For this reason laborers do not share proportionately either in the results of technical improvements or in any expansion in production that may accompany a period of rising prices. Of course, favorable circumstances sometimes enable certain labor groups to force their wages up ahead of prices. On the other hand, when prices fall, lagging wage rates tend to increase labor's share in the national income. But this gain to labor de-

pends primarily upon a gradual and moderate rather than a rapid fall in prices. Sharply falling prices destroy labor's advantage by causing a decline in business activity and employment.

Long-run price changes and business activity. The long-run price trend has been an object of deep concern to students of monetary problems. During the late 1920's, this concern led to great interest in the question of the adequacy of the world's monetary gold supply to maintain the postwar level of prices. The basis of this interest in the long-run price trend rested in the widely held belief that depressions are prolonged and exaggerated by a falling price trend, whereas shorter depressions and longer periods of prosperity characterize periods of long-run rising prices. The tangible evidence offered to support this belief is found in Table 23, which embodies the findings of Dr. Willard L. Thorp as quoted

TABLE 23

THE RELATIVE DURATION OF PROSPEROUS AND DEPRESSED PHASES OF BUSINESS CYCLES IN PERIODS OF RISING AND FALLING TRENDS OF WHOLESALE PRICES IN THE UNITED STATES AND ENGLAND

UNITED STATES			ENGLAND		
		<i>Years of Prosperity per Year of Depression</i>			<i>Years of Prosperity per Year of Depression</i>
1790-1815	Prices rising...	2.6	1790-1815	Prices rising...	1.0
1815-1849	Prices falling..	.8	1815-1849	Prices falling..	.9
1849-1865	Prices rising...	2.9	1849-1873	Prices rising...	3.3
1865-1896	Prices falling..	.9	1873-1896	Prices falling..	.4
1896-1920	Prices rising...	3.1	1896-1920	Prices rising...	2.7

by Professor W. C. Mitchell in his study of business cycles.⁹

The moral of the data appearing in Table 23 seems to be that downward trends in prices must be avoided if depressions are to be kept at a minimum. There appear to be reasonable grounds to support the above conclusion. It is well known that falling prices are unpopular with businessmen, since they impose a reduced level of profits and, at times, losses. The stickiness of wages and interest charges contributes to the embarrassment of businessmen faced with falling prices. A scaling down of such interest charges and wage rates can come about only by depression

⁹ *Business Cycles, The Problem and Its Setting*, New York, National Bureau of Economic Research, 1927, p. 411, quoted with the permission of the publisher.

and unemployment. Furthermore, long-run upward price trends were generally characterized by more than normal increases in the monetary gold supply, whereas falling price trends generally have been accompanied by a smaller increase in the supply of gold. To the extent that prosperity is brought to an end by a shortage of bank reserves, and relief from depression is facilitated by the accumulation of a plentiful supply of reserves, rapid increases in gold available for bank reserves might be expected to permit the expansion phase of the cycle to continue longer and to hasten the termination of depression. Contrarily, slower rates of increase in gold would tend to shorten the prosperous period and lead to longer depression.

Objections to the conclusion that falling price trends are undesirable. The conclusion that long-run falling prices increase the length of periods of business stagnation and are therefore highly undesirable is open to criticism on several grounds:

1. A decline in the price level need not depress business if it is accompanied by an equal reduction in costs arising from technical improvements.

2. The mere fact that prolonged periods of depression appear at the same time as falling secular price movements is no proof that depression is caused by falling prices. It may be argued with equal facility that depressions cause the declining price trend or that both are the result of some common cause and neither the cause of the other.

3. As presented by Mitchell, the evidence is biased in the direction of proving the conclusion that falling prices promote depression and rising prices promote prosperity. This bias arises from the manner in which the turning points in the secular price movements are related to cyclical movements. For example, the downward trend of English prices began with the depression of 1873 and continued irregularly until 1896. The latter year marked both the beginning of the upward trend of prices and the end of a period of depression. Thus, the period 1873-1896, constituting the period of the downward price trend, is biased in favor of depression because both the beginning and end are depression periods. The period 1896-1920 is in turn biased in the direction of prosperity. It begins in 1896 at the start of a business revival and ends in 1920 at the end of the long war and postwar boom. Periods of downward price trends include an extra period of depression, but the upward price periods include an extra period of prosperity. The choice of turning points in this manner can hardly be avoided, but such a choice inevitably provides a biased

picture of the relation between price trends and the prevalence of depression.

4. The terms *prosperity* and *depression* as used by Mitchell have no very exact meaning. They cannot be defined quantitatively but are merely relative terms.¹⁰ It follows that the existence of more or fewer months of "depression" as compared with months of "prosperity" may mean much or little, depending on the intensity of the depression and prosperity experienced.

5. The behavior of the per capita real income of the United States during periods of rising and falling trends of prices points to the conclusion that national economic welfare improved more rapidly during periods of falling prices than during the periods of rising prices. This evidence, presented in Table 24, does not prove that the rate of economic advance might not have been even more rapid during periods when prices were falling, had prices risen instead. But at least it raises serious doubts as to the validity of the widely accepted belief that downward price trends in the United States have been economically objectionable.

TABLE 24

INCREASE IN PER CAPITA REAL INCOME IN THE UNITED STATES, 1850-1928 *

Period	Price Trend	Income at Begin- ning	Income at End	Gain in Real Income	% Gain for Period	Average Annual Gain for Period
1850-1860	Upward	\$ 69	\$ 82	\$ 13	18.8	1.88
1870-1880	Downward	79	111	32	40.5	4.05
1880-1890	Downward	111	169	58	52.2	5.22
1890-1900	Irregular	169	232	63	37.2	3.72
1900-1910	Upward	232	262	30	12.9	1.29
1913-1928**	Upward and stable	368	541	173	47.0	3.13

* Data from W. I. King's *The Wealth and Income of the People of the United States*, New York, The Macmillan Co., 1917, p. 129.

** *Encyclopaedia of the Social Sciences*, Vol. XI, p. 206.

The relation of short-time price fluctuations to business activity. Short-time or cyclical fluctuations in business activity are generally accompanied by corresponding changes in the price level. High or rising prices tend to accompany prosperity, and low or falling prices characterize depressions. So closely are price fluctuations associated with changes in business activity that some regard cyclical changes in business as being essentially price phenomena.

¹⁰ *Business Cycles, The Problem and Its Setting*, p. 382. It is well to mention that the common assumption that the period 1850-1870 was one of rising prices has been criticized by Rufus S. Tucker in "The Myth of 1849," Appendix A of C. O. Hardy's *Is There Enough Gold*, Washington, D. C., Brookings Institution, 1936.

Such a view is understandable in the light of the fact that common causes lie behind both price and business fluctuations.

Any extensive examination of the causes of short-time price changes must be postponed until a later chapter. It is enough for our present purpose to suggest here that changes in the profit prospects of business tend to slow down or to speed up the tempo of business activity. Changes in business tempo are introduced by altering the rate of spending money. Through changes in the rate of spending, changes both in business activity and in the price level are brought about. If the supply of all commodities were perfectly elastic, changes in the rate of spending money and in business activity would not require changes in prices. But in fact the supply of commodities is not perfectly elastic. Changes in the rate of spending do, therefore, lead to changes in prices.

So long as cyclical fluctuations in business activity occur, it seems unlikely that cyclical price fluctuations are to be avoided. It is not at all clear, moreover, that a complete avoidance of fluctuations in business activity is either possible or desirable. In the past, periods of rapid growth in business activity have frequently accompanied a rapid exploitation of new inventions or newly found resources. Such developments, unquestionably, both quickened the whole industrial pulse of the times and left society immeasurably improved by the immense expansion of productive facilities. Without a flexible, expanding monetary supply and an upward movement of prices (either absolutely or relatively), these periods of rapid forward movements would have been unlikely if not entirely impossible. Such bursts of economic advance were probably beneficial in spite of the inevitable reactions and periods of readjustment that followed. The case for complete business and price stability is weakened by the prospect that such a goal might be obtained only at the price of stagnation and lack of progress.¹¹

Although there undoubtedly are forces deeply imbedded in our economic structure that make for "appropriate" changes in output and prices, we must not become blinded to the fact that fluctuations both in business activity and in prices may become excessive. In such a case they cease to be a necessary adjunct of desirable economic change in a free money economy and become instru-

¹¹ Cf. Robertson, D. H., *Banking Policy and the Price Level*, London, P. S. King & Son, Ltd., 1926, pp. 6-18 and 22.

ments of evil and destruction. Under these circumstances, the part played by price movements in inducing changes in business activity becomes important.

Disturbances to business stability arising from short-run price changes. Those price movements which facilitate fundamental economic changes and adjustments can be said to be desirable. Even when the process involves an expansion in the nature of a "boom," one may temper his criticism on the grounds that the boom made possible the vast and rapid expansion of the new capital equipment needed to establish some new and vital industry. Yet, by and large, most cyclical price movements cannot be justified upon such grounds, for they tend too often to exceed the bounds of economic necessity. Regardless of the originating force, once under way, such price movements tend to abandon their passive role and to become themselves active causes of economic fluctuations.

The reasons for the cumulative and self-generating nature of cyclical price movements are not difficult to understand. In the first place, let us assume that the monetary system possesses sufficient elasticity to accommodate itself to further price movements. This elasticity may come from a variation in the velocity of spending money, a variation in the quantity of money, or both. Without elasticity in the supply of money, cyclical price movements could hardly occur. A cyclical upswing in commodity prices, with lagging production costs, creates windfall business profits. Businessmen become optimistic and attempt to expand productive capacity. Bank credit is utilized to accomplish this expansion, and the rise in prices continues. But this expansion in new investment cannot continue indefinitely. Either rising costs and increased output reduce the previous optimistic expectations, or a disappearance of excess reserves in the banking system requires that credit expansion be brought to an end. The result is a reversal of the trend, a decline in the rate of new investment, falling prices, and diminished business activity.

When prices fall, lagging costs cause business to suffer windfall losses. Business expectations are made worse by the fall in prices, and activity declines. An additional unfavorable factor appears in the shape of forced credit liquidation that may be imposed upon business by the banks. This is especially likely to occur when depression leads to business and bank failures. The banks

believe themselves to be acting in self-interest when they refuse loans to borrowers whose solvency is in question and when they reduce the volume of their loans in order to improve their liquidity. But such forced liquidation imposed by the banks tends to aggravate the drop in commodity prices and to make the situation of the businessman more acute.

Those who would introduce monetary control as a means of stabilizing prices and business activity believe that two benefits might be achieved. First, a stable price policy would prevent the development of powerful upswings in business activity, for it would prevent an expansion of money and prices so necessary for an upswing in business. Second, by avoiding price movements, the added cumulative effects of windfall profits and losses might be minimized.

Questions for Study

1. What are some important types of price index numbers and what use has each?
2. What is an index number based upon price relatives? Why does it have an upward bias?
3. Why is the aggregate type of index number superior to the average of price relatives?
4. Why is price dispersion at the root of so many economic problems?
5. What is the nature of the price dispersion shown in Chart 14? How does it differ from that shown in Charts 16, 16a, and 16b? Which type of dispersion is more responsible for economic dislocations?
6. Examine Chart 15. How do you account for the long-run dispersion among wholesale prices, retail prices, and wages? Can you see the cyclical dispersions of 1915-1922 and 1929-1934?
7. Examine Charts 16, 16a, and 16b. Can you explain:
 - a) Why different groups of prices behaved as they did?
 - b) What the economic consequences of their behavior were?
8. Why do not the evil results of cyclical price movements cancel out?
9. What are windfall profits and losses? Why do they arise? Why are they objectionable?
10. Why, at the end of the 1920's, was there so much concern over the possibility of an inadequate increase in the output of gold?
11. Can you give some reasons why a long-run falling price level might not be disastrous to employment?

12. What economic results arise from cyclical movements in prices? Why do they tend to become a) cumulative, b) self-reversing?
13. Does it appear likely that all short-run price level changes can be abolished?
14. What are "appropriate" fluctuations? How are they related to economic growth?

The Theory of the Value of Money

THE VALUE OF MONEY WAS DEFINED WHEN WE EXAMINED THE BEHAVIOR of money and prices. In brief, this value is measured by what a unit of money will buy in terms of a representative assortment of economic goods. Putting it in another way, the value of money is the reciprocal of the price level, and changes in the value of money are indicated by changes in an appropriate index of prices. Indeed, it is customary to approach the study of the theory of the value of money by examining price movements and attempting to find the reasons for their occurrence. We may, therefore, visualize the problem of the value of money as the problem of explaining the behavior of the price level. Enough has been said in the preceding chapter to indicate that the concept of the value of money is not simple. Rather, it is dependent upon *whose* money one is talking about. The money of the businessman may suffer a more rapid loss of value during a period of rising prices than may that of the consumer, whose main interests are in the cost of living instead of wholesale prices. The value of money measured by a general price index is often considerably different from that measured by an index of commodity prices at wholesale. Although one should keep in mind the limitations of any single index of prices, it is nevertheless possible to use an index such as that of wholesale prices to obtain a rough but usable measure of the changes in the value of money.

The basic problem relating to the value of money is to explain the causal forces which determine it. This necessarily involves not only an explanation of the value of money at any particular time, but also the causes of changes, both of a long- and short-time nature, which may occur.

The importance of the theory of the value of money. Knowledge of the forces that determine the value of money is vitally needed in any attempt to solve modern economic problems. Because more and more the problem of controlling price movements is coming to be considered a proper goal of governmental action, those in charge of such action need to understand the basic principles of monetary theory. The public is becoming increasingly aware of the injustices which arise from marked changes in the price levels. Quite properly there is a growing belief that it is quite as much the duty of the government to prevent the shifts in wealth and income that result from price changes as to prevent those which arise from theft, fraud, and intimidation. Moreover, the close association of price movements with business fluctuations leads to the belief that, regardless of the basic causes of business fluctuations, preventive and ameliorating action may be taken in the form of influencing price movements through monetary controls. In other words, monetary control—managed currency—may furnish one point of attack upon the problem of the business cycle. Regardless of whether or not this last view is fully correct, a proper theory of the value of money upon which one could rely with confidence would be of considerable practical value.

Methods of approach. There are two basic methods of approach to the theory of the value of money. One is the statistical method, which seeks, so far as possible, correlations between changing economic situations that may influence the price level and changes in the price level that actually occur. Such studies may be used as a basis for formulating a theory of prices. The second method is to approach the problem by abstract reasoning. Both methods have their peculiar limitations, and dependence upon either alone is not satisfactory. Only when both are properly combined can one have any confidence in the resulting theory.

Studies of prices may proceed along two different lines. Some analyses deal essentially with long-run price movements. This approach is useful in explaining the secular or long-run trend, but contributes little to the explanation of cyclical price changes. Other studies are directed primarily to the understanding of short-run price changes. The urgent need for the latter type of study tends to make theories of long-run price change fall into relative insignificance.

THE DEMAND FOR MONEY

There are two well-accepted views of the demand for money. The first is known as the "transactions approach" and the second as the "cash-balance approach." The transactions approach involves the theorizing of the English classical school of economists as represented by J. S. Mill and has been brought down to its modern form and popularized in the writings of E. W. Kemmerer and Irving Fisher. The cash-balance approach was developed by Cambridge University economists headed by Alfred Marshall.

The demand for money, transactions approach. The transactions approach to the demand for money is essentially mechanical in nature. It utilizes the same concept of demand that is applied to the problem of value of commodities, for "demand" is visualized as the offering of economic goods in exchange for money. For example, just as the demand for any commodity is thought of as the amounts of money that buyers will offer for different amounts of the thing offered for sale, so the demand for money is thought of as the commodities and services that sellers of goods will offer in exchange for various amounts of money.

According to this view, as used by the "quantity theorists," the demand for money has an elasticity of unity.¹ That is, the volume of goods and services being offered in the market in exchange for the total money supply is a constant and is not affected by differences in the volume of money. Therefore, the total value of the monetary supply in terms of other things is constant. The basic reasoning behind this view is found in the fact that fundamentally the volume of things that will be sold in the market is determined by the volume of industrial output and the degree of specialization involved in creating and distributing that output. Now, so long as there is sufficient money to permit the normal functioning of a money economy, it would seem that the volume of goods produced and the specialization used are governed primarily by the supply of natural resources, the state of industrial technique, and the capabilities of the population. Therefore, the theory that the demand for money has an elasticity of unity seems quite sound,

¹ The demand curve for a thing having unitary elasticity is a rectangular hyperbola, which means that regardless of the supply of the thing offered for sale, the total amount offered in return is always the same.

out, as we shall see later, the assumption of a unitary demand for money is of questionable validity in the short run.

To illustrate the workings of the transactions theory of the demand for money, let us assume that in a given community and during a given interval of time there are \$1,000,000 and 1,000,000 units of goods to be sold. If all the goods are exchanged for all the dollars, each dollar is exchanged for one unit of goods; therefore, the value of the dollar is one unit of goods and the price of one unit of goods is \$1.00. Now, suppose that the number of dollars be increased to \$2,000,000, with no change in the number of units of goods. Two dollars will then be exchanged for each unit of goods, and the value of a dollar will be one-half unit of goods, or the price of one unit of goods will be \$2.00. From this view of the demand for money, the conclusion is reached that the value of money varies in an inverse proportion to its quantity, or that the general level of prices varies directly in proportion to the quantity of money.²

Of course, during a period of time while changes in the quantity of money are bringing about a change in the price level, the assumption that the demand for money has an elasticity of unity does not correspond to the facts. If prices are rising, sellers of goods tend to hold goods back in order to obtain speculative profits; hence, during the interval, the demand for money may be less than before the price movement began. Likewise, if prices begin to fall as the result of a lessening of the quantity of money, more goods than usual may be offered for money as businessmen attempt to minimize losses by reducing their inventories. This condition tends to cause an increase in the value of money that is more than proportionate to the decline in its volume. Moreover, changing

² John Stuart Mill expressed this view as follows: "The supply of money, then, is the quantity of it which people are wanting to lay out; that is, all the money they have in their possession, except what they are hoarding, or at least keeping by them as a reserve for future contingencies. The supply of money, in short, is all the money in *circulation* at the time.

"The demand for money, again, consists of all the goods offered for sale. Every seller of goods is a buyer of money, and the goods he brings with him constitute his demand. . . .

"If there were less money in the hands of the community, and the same amount of goods to be sold, less money altogether would be given for them, and they would be sold at lower prices; lower, too, in the precise ratio in which money was diminished. So that the value of money, other things being the same, varies inversely as its quantity; every increase of quantity lowering the value, and every diminution raising it, in a ratio exactly equivalent." *Principles of Political Economy*, Book III, Chapter VIII.

prices are almost certain to be associated with changes in the volume of production, so that the demand for money is subject to variation from this cause. Likewise, changes in the volume of speculative trading in securities, land, or commodities in general are subject to wide variations, and in themselves these changes influence the demand for money and tend to invalidate the assumption of a constant demand. It is clear, therefore, that any explanations of the value of money based on the assumption that the demand for money has unitary elasticity may be criticized as incapable of giving a satisfactory solution to the problem of short-run price fluctuations.

The cash-balance approach. The cash-balance approach uses a very different concept of the demand for money from that of the transactions approach. Those who prefer the cash-balance approach hold it unrealistic to think of the demand for money as a mass of goods being exchanged against a mass of money. Rather, they prefer to inquire why money is wanted. They hold that money is wanted primarily as a means for storing values in highly available or liquid form. It is a basic function of a properly working medium of exchange to enable a person to sell his products and services today and buy other things when wanted in the future. In its capacity as a store of value, money permits one to regularize his expenditures while receiving an irregular income; to spend a regular income in an irregular manner; to await the appearance on the market of the thing specially suited to his needs; to await the appearance of prices of both commodities and securities more favorable than those ruling at the moment; and to meet emergencies as they arise.³ Everyone who receives an income finds it desirable and necessary to make some use of money as a store of value. The importance of such use varies with the individual and his particular requirements. For example, one who receives an income at irregular and infrequent intervals must, other things being equal, feel greater need for money as a store of value than a person receiving a highly regular and frequent income. The businessman, whose success depends in part on his ability to pick up a bargain when it appears, has a greater need for cash balances than has the college professor. The prob-

³ The holding of money derived from current income is not the only way to accomplish these things. Buying on credit and other forms of borrowing may be used instead.

ability of emergency expenditures tends to enhance the attractiveness of a cash balance. To the conservative individual a cash reserve seems more essential than it does to the impulsive and shortsighted. Finally, the existence of price movements bears on this question. Rising prices reduce and falling prices enhance the advantages of holding cash.

The impulse to hold purchasing power in the form of cash balances is modified by the undeniable fact that such cash balances are an expense to the owner. This expense consists of the enjoyment or profit that might have been obtained by spending this cash balance. Furthermore, it is influenced somewhat by the possibility of holding values in somewhat less liquid and more remunerative form in the shape of time deposits and readily salable securities.

Under any given circumstances, there is an amount of buying power that the public wishes to have available in the form of money. This buying power must be sufficient to purchase the volume of goods and services that the public feels it should be able to command with its cash balances. One may conveniently think of this aggregation of goods and services as a given fractional part of the national income. A growth in national income will presumably cause some increase in the volume of goods and services the public wishes to be able to buy with its cash holdings. On the other hand, some other change, such as an increase in industrial integration, would tend to reduce the need for holding buying power in cash.

The application of the cash-balance theory of the demand for money. How, one may ask, is such a concept of the demand for money to be applied in explaining its value? Clearly the desire of the public to hold in cash sufficient buying power to purchase a given volume of goods and services cannot directly affect the volume of available cash. Furthermore, the existing supply of cash is always being held by someone or other all of the time. Since this is true, the problem confronting the public that wishes to hold a given amount of buying power in the form of cash is how to compel the existing supply of money to buy the required volume of goods and services. To accomplish this, the general public has only one available method. To illustrate, let us suppose that the value of money is already such that the existing supply has a total purchasing power equal to one-tenth of the

nation's annual real income. Now, if the public wishes its cash balances to buy one-eighth of the annual income instead of one-tenth, the increase in purchasing power must be brought about by the action of individuals. The only way in which an individual can increase the buying power of his own cash holdings is to try to expand the volume of these holdings. Assuming that he will not do this by borrowing, he must spend less money in relation to his income than usual during a given period of time. But if everyone else does the same thing, the net result must be that, since the total money supply held by the public remains unchanged, the total volume of money spent is reduced and the price level will fall.⁴ The fall in prices that results from the reduced spending must continue until the existing cash balances will buy one-eighth instead of one-tenth of the national income.

On the other hand, a decline in the desire of the public to hold buying power in cash form causes an increase in the velocity of spending. Outlays of cash exceed current incomes and force prices up to the point where the buying power of the stock of money falls to the required level. Under these circumstances, the holders of money resemble the boy who is trying to run away from his shadow: run as he may, it always remains with him. Similarly, spend as they may, the holders of cash cannot actually rid themselves of it. But, like the boy, they may end in an entirely different place from where they started.

The cash-balance approach, therefore, holds that the value of the existing money supply is determined by the desire of the public to store up, in the form of money balances, purchasing power over goods, services, and property of various kinds, including securities. The value of the total money supply must be equal to this required purchasing power. Thus, if the public requires the current money supply (which we shall assume to be 1,000,000 units) to purchase 500,000 units of goods, each unit of money must be worth one-half a unit of goods. If the number of units of money is doubled, the value of each must decline to one-quarter of a unit of goods.⁵

⁴ To put it in another way, it might be said that everyone is now willing to offer more "things" to get money. Cf. Pigou, A. C., *Essays in Applied Economics*, London, P. S. King & Son, Ltd., 1930, p. 178.

⁵ Cf. Marshall, Alfred, *Money, Credit and Commerce*, London, Macmillan & Co., Ltd., 1923, pp. 43-46, and Keynes, J. M., *Monetary Reform*, New York, Harcourt, Brace & Co., 1924, pp. 81-86.

Factors affecting the demand for consumer cash balances. There remains for consideration the somewhat perplexing question of the causes lying behind the demand for cash balances. In searching for the answer, it is well to remember that the demand for cash balances is essentially an individual matter and must be explained in the light of individual preferences for cash instead of other things.

Let us first examine the problem from the standpoint of consumers. A consumer can expand his volume of cash holdings only at the expense of some reduction in his consumption. Each consumer must strike some point of balance at which the marginal advantage of liquid assets in the form of cash is just equal to the marginal advantage of added consumption. An increase in the prices of things which he buys tends to increase his need for cash balances in about the same proportion. Likewise, if increased productivity leads to an increase in money income with no increase in commodity prices, his cash requirements are likely to increase proportionately. To some extent, of course, the consumer is exposed to the speculative opportunities afforded by changes in the value of money, so that, temporarily, rising prices diminish and falling prices increase his desire for cash. But, in general, that person of modest income known as the average consumer finds little room to vary the size of his cash balances beyond the limits set by the size of his money income.

Factors affecting the demand for cash balances by businessmen. The demand for cash balances held by investors and businessmen cannot be explained upon the same simple grounds which suffice to explain consumers' cash requirements. Businessmen do not strike a balance between the advantage of holding liquid cash assets and the desire to consume. Rather, they must balance the advantages of holding cash against the net advantage of investing in securities or in productive capital goods. This calculation necessarily takes the form of weighing "anticipations" as to the need for cash against the "anticipations" of gains from investment. The businessman requires a cash balance that will enable him to carry on his enterprise efficiently. He must have enough cash to meet his bills or care for his expenditures for some certain length of time. For example, he may decide that on the average he wants a backlog of cash purchasing power sufficient to meet his expenditures for one month. In that case, he wants buying power

over about one-twelfth of his annual business transactions. This is sometimes described as the *transaction motive* for holding cash. Should the scale of his operations, *i.e.*, his transactions, rise by 50 per cent, he will require about 50 per cent more cash in order to be able to purchase or handle one-twelfth of his annual transactions. Likewise, a rise in prices will increase his need for cash to handle a given amount of transactions.

There are other reasons in addition to the transactions motive that affect the businessman's desire for cash. For example, should business prospects become somewhat dimmed, should something threaten the regularity or certainty of his income, he may conclude that, to be safe, he should carry a larger stock of cash than before. He might decide that his cash balance should be sufficient to handle two months' transactions instead of only one. This reason for increased desire for cash purchasing power is called the *precautionary motive*. Still another reason exists, which determines the desire for cash balances by businessmen and capitalists. A large part of the expenditures of businessmen involve some form of investment. They spend money for merchandise and raw material, for equipment, and for expansion of capacity. An important consideration that influences businessmen is the prospect that what is purchased will rise or fall in price. Thus, if it is believed that capital goods are going to rise in price the incentive to hold back cash purchasing power intended for investment will disappear. On the other hand, should the prospect develop that capital goods are going to fall in price, there will be a strong motive for postponing the investment and for building up cash balances accordingly. This is called the *speculative motive* for holding cash. The businessman has considerable leeway in his choice of investing or holding his cash. He can hoard the proceeds from current sales or he can reinvest them promptly in new merchandise inventory. He can hold depreciation funds and undistributed net earnings in cash, or he may spend them promptly on new equipment and expanded capacity. This flexibility of choice is available to him because he is not like the average consumer who is compelled to spend in order to subsist.

Individual savers and investment agencies capable of watching and evaluating the market are also influenced strongly by the speculative motive. Whenever interest rates are expected to rise, or security prices are expected to fall, there will be a prospect of

gain from postponing security purchases. Therefore the demand for cash balances by these individuals and firms rises sharply. Conversely, an expectation of a fall in interest rates or a rise in security prices reduces the demand for cash balances.

To use the analysis of Mr. Hicks,⁶ the anticipation of gain from investment depends on the difference between the expense involved in making an investment and the expected profit or interest (including the expected gain or loss from changes in capital value of the investment). The demand for money by the business and investing classes is, therefore, subject to wide changes in response to changes in profit expectations. The appearance of good business and profit prospects reduces sharply the demand for money, whereas an anticipation of declining profits or losses causes a sharp increase in the preference for cash.

Unlike the consumer, investors need not adapt their demand for money to changes in the price level. A rise in consumers' money income and expenditure causes a more or less proportional rise in the need for cash balances in order that expenditure may be carried on in a sensible and customary manner. If consumers' money income shrinks and prices decline, their need for cash balances will decline. Thus, the demand for money by consumers tends to change directly with the price level, and the demand for purchasing power over real income (commodities and services) tends to be relatively constant. This gives support to the view that the demand for money is a constant; therefore, its value varies inversely with its quantity. But the cash balances of the business and investing groups need not rise and fall in proportion to the rise and fall of prices. The need for cash balances does not necessarily increase as the prices of securities and capital goods increase. Because of the speculative element that influences business behavior so heavily, rising prices encourage the paring down of the size of cash balances. This decline in the "demand" for money leads to price increases that are greater than the increase in the quantity of money. During periods of declining profit prospects, the demand for money increases and current income is allowed to accumulate in idle balances. Security and capital goods prices

⁶ Hicks, J. R., "A Suggestion for Simplifying the Theory of Money," *Economica*, February 1935. Hicks' discussion is based upon the same approach as that used by Keynes in his discussion of the "Speculative-motive" in his *General Theory of Employment*, New York, Harcourt, Brace & Co., 1936, Chapter XV.

fall as investment declines. But this does not reduce the demand for money until investors are convinced that the bottom of prices has been reached and new investment is desirable. Because the business and investing groups trade largely with each other, and because their demand for cash balances is highly sensitive to changes in profit expectations but highly insensitive to changes in the price level of those things in which they deal, price fluctuations arising from changes in the demand for money by businessmen and investors tend to be acute.⁷

Demand and the quantity of money. Clearly, then, the value of money or the price level may change due to changes in the demand for money without any changes in the quantity of money. This must not be taken to mean, however, that when changes in the demand for money occur that the volume of money actually remains fixed. On the contrary, since the money or cash balance supply is mainly made up of bank money (demand deposits and notes), which responds to variations in bank loans and investments, it follows that increased demand for cash balances *may* call into being added amounts of money. Especially is this likely when the reasons for wanting cash arise from increased transactions to be handled. On the other hand, an increase in the demand for money arising from fear of loss of income or the expectation of falling security or commodity prices is most unlikely to be accompanied by more money. Rather, some shrinkage in the money supply is likely to occur because of the repayment of bank loans. Similarly, when the demand for money shrinks because of a slowing down in the volume of business, the volume of bank credit will probably fall. But when the threat of higher prices reduces the demand for cash, money is likely to expand due to the advantages of borrowing to purchase in a rising market.

Questions for Study

1. Why is it important that the public understand the forces that determine the value of money?
2. What is the *transactions approach* to the demand for money? According to this approach, what would constitute an "increase in the demand for money"?

⁷ *Ibid.*, pp. 16-18.

3. Why is it sometimes believed that the elasticity of demand for money is unity? What does this mean? Why is it not valid during short-run or cyclical changes in money and prices?
4. What is the cash-balance approach? In what way is the cash-balance demand for money more realistic than the transactions approach?
5. What three motives affect the demand for cash balances?
6. What happens to the demand for money (cash balances) when:
a) the level of business transactions increases? b) the level of prices falls?
7. Is your answer to question 6 the same for consumers, business men concerned with current transactions, and holders of cash savings awaiting investment?
8. If the cash-balance demand for money equals one-fifth of the total annual transactions, what would happen if it were to fall to one-seventh of the annual transactions?
9. Under what circumstances will an increased demand for money be followed or accompanied by an increased supply? When will the reverse be true?

The Quantity Theory of the Value of Money

The equation of exchange. To give expression to the classical view that the demand for money consists of the goods and services offered in exchange for it, there has been formulated an "equation of exchange," which is commonly referred to as the *transactions equation*. By assuming that all money in circulation is of one type, the equation may be stated in the following simple form:

$$MV = PT,$$

or

$$P = \frac{MV}{T}.$$

This equation describes the events that occur over a period of time. M is the volume of money in circulation (that is, not in bank reserves, but where it may be spent directly upon goods and services). V is the velocity of money or the average number of times that the money is spent during a given period. MV is therefore the equivalent of the total amount of effective money that can be demanded during the given interval of time. T represents the total volume of financial settlements made during the period from the sale of goods, services, securities, and other intangibles.¹ P is the price level or index of prices of everything represented by T , weighted according to relative unit value.

¹ It is incorrect to think of T as the equivalent of the current output of goods and services. Some goods are bought and sold many times before they emerge from the productive process in finished form. T is therefore influenced quite as much by the *turnover* of goods as by their absolute volume. Furthermore, old capital goods, land, and securities sold in the market are a part of T . To be exact, credit sales for which payment is postponed to a later period are not a part of T . On the other hand, past credit sales involving payments within the given period must be included.

Visualizing MV as the total supply of money available during the period and T as the sum total of goods, services, and so forth, offered in exchange for MV , we have the basic concept behind the transactions equation of exchange as used by the quantity theorists. The elasticity of demand for money is thought of as being unity; that is, regardless of the size of MV , the same volume of T will be offered in exchange.

The equation of exchange, $MV = PT$, is, of course, a simple truism, which states that the amount of money spent during a given period (MV) is equal to the money value of all the things bought (PT). It does not, of course, explain *why* the price level is what it is. The equation is merely a convenient means of bringing to attention some fundamental factors that bear upon the determination of the level of prices. There still remains the problem of discovering the causal relations between these factors.

The quantity theory of money. Beginning with the equation of exchange, the quantity theorists make certain assumptions with respect to the factors contained therein.

1. It is assumed that T is an independent factor whose magnitude is unaffected by changes in the quantity of money. The basic correctness of this assumption is supported by the argument that "an inflation of the currency cannot increase the product of farms and factories, nor the speed of freight trains or ships. The stream of business depends on natural resources and technical conditions, not on the quantity of money. The whole machinery of production, transportation, and sale is a matter of physical capacities and technique," and does not depend on the quantity of money.²

This assumption is qualified, however, by a recognition of the fact that during transitional periods, when the increasing or decreasing quantity of money is bringing about rising or falling prices, some changes in T actually occur. Rising prices encourage the expansion of industrial output and trade, and falling prices have the opposite effect.³

2. It is assumed that the velocity of spending money (V) is also independent of changes in the quantity of money. The rate of turnover or velocity of money is the result of individual decisions and is the ratio of total money to the amount spent during the interval. In the course of receiving and spending its income, the public requires some cash holdings as a store of value. Persons

² Fisher, Irving, *The Purchasing Power of Money*, New York, the Macmillan Co., 1922, p. 155, quoted with the permission of the publishers.

³ *Ibid.*, pp. 61-63.

with regular, frequent incomes that synchronize with expenditures are able to get along with small cash balances, and those with irregular and infrequent incomes require larger amounts of cash. Conservative persons prefer larger cash reserves than do spendthrifts. People who buy for cash must normally carry more cash reserves than those who buy on credit. The cash one needs is determined largely by convenience. Too small a cash reserve is dangerous and inconvenient, but too much is a needless extravagance. An expansion in the quantity of money must result in an increase in spending, for otherwise there would be an unnecessary waste of purchasing power. Prices may therefore be expected to rise. But as prices rise, the volume of cash needed for personal and business convenience may be expected to rise in proportion.⁴

It is admitted, however, that the assumption that velocity is stable does not apply to transitional periods during which the effects of changing quantities of money are being worked out, for rising prices tend to cause an increase in the velocity of money, whereas falling prices tend to reduce it. Therefore, a change in the volume of money will not result immediately in an exactly proportional change in the price level. But after the transition from one price level to the new one has been accomplished, V and T may be expected to return to their normal level, so that, in the last analysis, it is correct to say that a change in the quantity of money causes a proportional change in the level of prices.⁵ Irving Fisher, a prominent quantity theorist, saw continuous disturbances from changes in the quantity of money, with a continuous tendency toward normal adjustment. "Since periods of transition are the rule and those of equilibrium the exception, the mechanism of exchange is almost always in a dynamic rather than a static condition."⁶

3. The quantity theory holds that the price level is passive and cannot itself be the source of a change in the equation of exchange. Prices, therefore, are the result of the other factors in the equation. Thus, an increase in T due to long-run economic developments tends to depress the price level unless offset by a corresponding increase in M or V . Likewise, an increase in V tends to lead to higher prices, other things remaining the same. But there is no room in the quantity theory for the concept, held by its critics, that prices may rise for reasons completely outside the equation of exchange and thereby induce changes in the other factors needed to maintain an equilibrium.

⁴ This, of course, is the same approach used in the "cash-balance" theory of the demand for money. The cash-balance approach is basically an explanation of the forces determining velocity.

⁵ *Ibid.*, pp. 63-69.

⁶ *Ibid.*, p. 71. Quoted with the permission of the Macmillan Company.

Introduction of bank credit into the quantity theory. So far, in considering the equation of exchange, we have lumped the monetary side into a single factor MV . If we assume that all money is standard money and none is bank deposits, the use of MV as the monetary factor is satisfactory enough. Or, if M be taken to represent the *total* money in circulation whether standard currency or demand deposits, MV is sufficient. Older quantity theorists generally attempt to show that there is a direct and proportional relation between the quantity of *standard* money of a country and the price level. This, therefore, makes it necessary that special attention be given to the volume of demand deposits as related to the volume of standard money. To do this, the MV factor is modified by the addition of $M'V'$ to represent the spending of demand deposits. The expanded equation then reads $MV + M'V' = PT$. In this form, M represents currency (including central bank notes) in circulation, and V its velocity or rate of turnover, while M' represents the volume of demand deposits and V' their velocity.⁷

Assumptions involved in using the expanded form of the equation. Use of this equation to demonstrate the relation of the quantity of standard money to the price level requires the making of some additional assumptions. New standard money that comes into the monetary system first flows into the banks, which add it to their cash reserves. The banks, eager to make profits and accustomed to carrying cash reserves that are but a fraction of their deposit liabilities, use this new cash reserve to expand their loans and deposits. To match the increase in demand deposits, the volume of hand-to-hand currency must be expanded. The expansion of bank loans and deposits must continue until the supply of new standard money is absorbed by (1) reserve requirements for new demand deposits; and (2) added requirements for money in circulation. It may be assumed, therefore, that any increase in standard money must result in a proportional increase in M and M' . A proportional shrinkage in M and M' must follow any decrease in the quantity of standard money.

⁷ Generally, M' is thought of as checking accounts in banks, although it would perhaps make no difference if total deposits were used. In this equation, where the spending of money for goods is thought of as the force influencing prices, it seems unnecessary to include time deposits, which seldom if ever are spent without being first converted into currency or checking accounts. If time deposits are included as a part of M' , V' is reduced.

Hence, one may conclude that (1) M and M' bear a fixed relation to each other as determined by hand-to-hand currency requirements; and (2) that M and M' bear a fixed relation to the quantity of standard money. Thus, with other things remaining the same (that is, V , V' , and T), changes in the volume of standard money must cause proportional changes in the level of prices.⁸ But this whole conclusion is based upon the assumption that the banking system maintains a uniform ratio of deposits to cash reserves. This would require the banks to be "loaned up" to the maximum at all times. Such, however, is not the case, for during depressions loans and deposits shrink irrespective of the amount of cash reserves held by the banks. During good times, on the other hand, borrowers go to the banks for accommodation, loans and deposits expand, and the ratio of cash reserves to M' falls. It is necessary, therefore, to qualify the assertion that M and M' bear a fixed relation to the quantity of standard money by adding that a rigid relation does not exist during "transitional" periods.⁹

We must conclude that the quantity theory of money offers little in the way of an explanation of short-run or cyclical price changes in terms of the volume of standard money. Not only are the V 's and T subject to variation during cyclical price movements, but M and M' , the vital monetary factors, do not maintain a constant relation to the volume of standard money.

Central banks, the volume of money, and the price level. The connection between the volume of standard money and M and M' is still more remote when central banks are brought into the picture. An increased volume of standard money in a country causes an increase in the reserves both of commercial banks and of the central bank. The central bank is in a position to extend added credit and cause a further increase in commercial bank reserves. If the central bank were to follow a uniform policy of maintaining the volume of its own credit at some fixed multiple of its standard money reserves, the application of the quantity theory would be unaffected by the introduction of the central

⁸ To quote Fisher, "The quantity of bank deposits normally maintains a definite ratio to the quantity of money in circulation and to the amount of bank reserves. As long as this normal relation holds, the existence of bank deposits merely *magnifies* the effect on the level of prices produced by the quantity of money in circulation and does not in the least distort the effect." *Ibid.*, p. 55. Quoted with the permission of the Macmillan Company.

⁹ Cf. Fisher, *op. cit.*, pp. 55, 58-64, and 68-69.

bank. But central banks normally refuse to follow such a practice, engaging instead in "offsetting" operations that nullify the effects of changes in the volume of standard money. Moreover, as lenders of last resort to the commercial banks, central banks reflect the temper of the times, rediscounting freely when business expansion appears healthy and exercising restraint when caution seems called for. Such actions magnify the amplitude of fluctuations in M and M' upon a given standard money base. The introduction of the central bank, therefore, with its power to vary the volume of commercial bank reserves when there is a given volume of standard money, reduces still further the usefulness of the quantity theory of money as an explanation of short-run price changes.

THE QUANTITY THEORY APPLIED DIRECTLY TO M AND M'

In spite of the obvious difficulties in the way of any attempt to explain short-run price fluctuations in terms of changes in the quantity of standard money, some significant efforts have been made to utilize the quantity theory and the equation of exchange in developing a realistic approach to the problem of short-run price movements. No direct connection between the quantity of *standard* money and short-run prices is sought. Instead, there is an attempt to find some significant short-run relation of a predictable and causal nature between the quantity of effective money represented by M and M' and movements of prices.

Assumptions required. If it can be shown that short-run price fluctuations are due to changes in the volume of M and M' , an important advance will have been made in the direction of solving the problem of controlling the price level. To demonstrate that changes in M and M' are responsible for short-run changes in prices requires certain assumptions. The first, a basic one found in any version of the quantity theory, is that prices are passive and the result of the other factors in the equation of exchange. The second is that short-run changes in T are accompanied by equal changes in V and V' , so that the effects of changes in T , V , and V' cancel out, leaving only M and M' to influence short-run price changes.

The theoretical case for short-run or cyclical equality of changes in V 's and T . Some writers on monetary theory have attempted to demonstrate the theoretical impossibility of short-run changes

in the velocity of money without similar and proportionate changes in the volume of transactions or trade. These theoretical analyses have been carefully examined by Professor Marget.¹⁰ He presents the view of those who believe that changes in the velocity of money cannot be responsible for causing changes in prices by quoting from their writings: "The velocity of circulation of goods must increase just as that of money increases; it is simply unthinkable that the money-side of all transactions should suddenly increase, without the goods-side following it! A purchase always presupposes a sale, a payment a receiver of payment. . . . Every increase in the circulation of money *automatically* calls forth an equally large increase in the goods-circulation."¹¹

It is not especially difficult to point out theoretical objections to the view that changes in velocity cannot affect prices. It is easy to imagine a situation in which the velocity of money might change at a rate differing from that at which goods are offered for sale. For instance, during the recovery period following a depression, there is an expansion both in money expenditures and in the volume of production and trade. But if recovery moves on into a period of inflation and price boom, speculative buying of commodities may occur, while productive facilities are fully utilized and the volume of production has ceased to grow. With rising prices, the holding of goods becomes more advantageous than the holding of cash. The increased spending, therefore, may partially be accomplished by a more rapid spending of cash balances as well as by an expansion in the quantity of money. This larger flow of money is matched against a limited supply of goods, and is the cause of the rise in prices. It makes no difference whether this larger flow of money comes from a more rapid spending of cash balances or from an increase in the quantity of money. Similarly, when the peak of the boom has passed and prices begin to fall, the most natural reaction of businessmen is to accumulate idle cash balances instead of buying goods (decreasing the velocity of money). As a result, smaller amounts of money are offered for the

¹⁰ Marget, Arthur W., "The Relation Between the Velocity of Circulation of Money and the 'Velocity of Circulation of Goods,'" *Journal of Political Economy*, Vol. 40, 1932. Quotation by permission of the University of Chicago Press.

¹¹ Similar views appear in the writings of some American economists. See, for example, Davenport, H. G., "Velocities, Turnover, and Prices," *American Economic Review*, March 1930, and Launsbury, R. H., "Velocity Concepts and Prices," *Quarterly Journal of Economics*, November 1931.

existing fixed supply of goods available for sale, and prices fall still further. It is evident, therefore, that changes in velocity of money may and probably do have some influence on the movement of prices.

Statistical measures of the short-run relation of V to T . By the use of statistical methods, Carl Snyder attempted to throw more light on the equation of exchange, with particular attention to the cyclical relation between changes in velocity of spending money and fluctuations in the volume of trade. Because of the extreme difficulty of obtaining reliable figures for the velocity of spending currency which comprises the hand-to-hand circulation, he confined his measurements to the velocity of deposit currency (V'). Estimating the normal or secular rate of growth of production and trade in the United States at about 4 per cent per year, he calculated the cyclical fluctuations in the volume of trade by correcting the actual fluctuations for the normal trend and seasonal changes. He compared the cyclical fluctuations in trade with changes in the velocity of bank deposits corrected for seasonal variations. He found a strong though not unvarying tendency for changes in trade to coincide with changes in velocity of deposits, both in time and in amplitude. His statistical studies, therefore, tend to support the view that V and T do in fact move together during the different stages of the cycle.

Because V and T appear to fluctuate together during the different phases of the business cycle, Snyder concluded that the

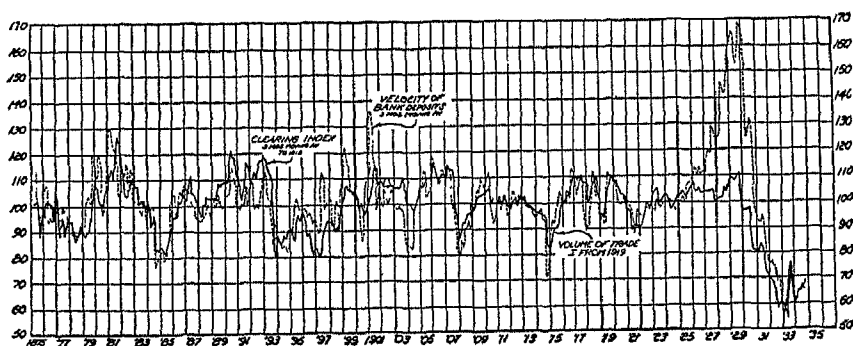


CHART 17. VELOCITY OF BANK DEPOSITS IN THE UNITED STATES AND VARIATIONS IN THE VOLUME OF TRADE (DEVIATIONS FROM LINE OF NORMAL GROWTH). (From Snyder's "The Problem of Monetary and Economic Stability," *The Quarterly Journal of Economics*, February, 1935. Reprinted by permission of the President and Fellows of Harvard College.)

quantity theory (that prices vary in proportion to the quantity of money) is substantially true in the short run and is not invalidated by the failure of V and T to show short-run stability. To further check his conclusions, Snyder compared changes in the demand deposits of national banks with changes in the general price level, and found, as might be expected in the light of his evidence concerning V and T , that there was a marked similarity of movement.¹² (See Chart 18.)

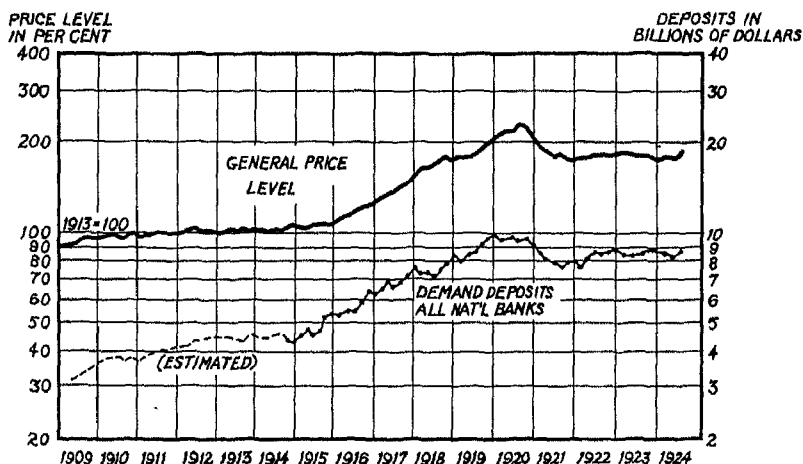


CHART 18. INDEX OF THE GENERAL PRICE LEVEL AND DEMAND DEPOSITS, AS MEASURED BY REPORTED DEPOSITS IN THE NATIONAL BANKS. Source: *The American Economic Review*, December, 1924, p. 709.

The control of prices in the light of Snyder's theory. Should Snyder's findings in regard to the equality of cyclical changes in V and T prove acceptable, they would provide a means for controlling cyclical price movements by appropriate control of the quantity of money; for, if cyclical changes in V and T cancel out, there remains in the equation of exchange only $M = P$. Therefore, if the volume of effective money were increased at the rate of 4 per cent annually to correspond to the secular trend of trade, the general price level should remain stable. By dealing directly

¹² For accounts of Snyder's work on this question, see the following: "A New Index of the Volume of Trade," *Journal of the American Statistical Association*, December 1923; "A New Index of Business Activity," *Ibid.*, March 1924; "A New Index of the General Price Level from 1875," *Ibid.*, June 1924; "New Measures in the Equation of Exchange," *American Economic Review*, March 1924; "Deposit Activity as a Measure of Business Activity," *Review of Economic Statistics*, October 1924; "The Problem of Monetary and Economic Stability," *Quarterly Journal of Economics*, February 1935.

with demand deposits (accompanied by the appropriate volume of currency for circulation), Snyder eliminated the problem of attempting to explain short-run price changes in terms of changes in the quantity of standard money or gold. Even so, there still remains the problem of controlling effectively the quantity of demand deposits and circulating currency.

Limitations on the application of Snyder's theory. Admitting for the moment the validity of Snyder's conclusions as to the cyclical equality between V and T , can one be sure that a monetary policy that increases the quantity of effective money at 4 per cent per year will insure cyclical stability of prices? Snyder's study finds only a rough equality between V and T under circumstances when M is free to expand or contract with changes in the volume of borrowing at the banks. It does not necessarily follow that V and T would be equal if control were imposed upon the volume of effective money. For example, if the volume of money is not allowed to expand during the upswing of business, the velocity of spending money is certain to behave differently from the way it would if there were not restraints upon monetary expansion. If the profit prospects appear bountiful and borrowing at banks is rigorously held in check, businessmen will probably operate on smaller cash balances than they would if loans were easily obtainable. This situation would tend to cause a speeding up of the velocity of money. Therefore, if M were not allowed to expand, changes in V would no longer be equal to changes in T . On the other hand, if it were publicly known that a stable money policy could be expected, profit prospects during a business upswing would be more modest than in the absence of monetary restraint. For this reason the velocity of money might rise less than normal during periods of business expansion. The introduction of monetary control, therefore, must cause such unpredictable changes in the velocity of money as to render useless conclusions as to the relation between V and T based on their behavior when monetary control is absent. In seeking price stability, it would be foolish to place any blind reliance upon Snyder's suggestion that the quantity of money be increased at the rate of 4 per cent annually to conform to the secular increase in trade. Such a rule is even more questionable in view of the probability that the *actual* annual rate of secular expansion in trade does not conform to the *average* 4 per cent trend.

The relation of velocity of circulation of money to changes in the volume of transactions during acute depression and recovery. The behavior of the velocity of circulation of money and the volume of transactions or trade during the period 1930-1934 (see Table 25) suggest that Snyder's conclusions in respect to equality of V and T do not hold true during periods of acute depression. During this period, the ratio of V' to T fluctuated from a low of 0.9 to a high of 1.41, or a difference of 57 per cent. This indicates that changes in velocity of money contributed something to the price movements of the period.

TABLE 25

RATIOS OF THE VELOCITY OF CIRCULATION OF BANK DEPOSITS TO THE TOTAL VOLUME OF TRADE IN THE UNITED STATES *

	1930			1931			1932			1933			1934		
	V'	T	V'/T	V'	T	V'/T	V'	T	V'/T	V'	T	V'/T	V'	T	V'/T
Jan.	120	97	1.24	90	80	1.12	79	69	1.14	58	58	1.00	64	63	1.01
Feb.	126	98	1.28	89	82	1.08	73	67	1.09	61	57	1.07	68	64	1.06
Mar.	137	97	1.41	96	82	1.17	72	64	1.12	..	..	...	66	64	1.03
Apr.	131	98	1.34	95	84	1.13	77	64	1.20	63	60	1.05	74	65	1.14
May	127	96	1.32	93	82	1.13	67	61	1.10	65	64	1.01	65	66	.99
June	130	95	1.37	92	81	1.13	68	61	1.11	72	70	1.03	65	65	1.00
July	110	91	1.21	84	79	1.06	70	59	1.19	85	74	1.15	66	64	1.03
Aug.	106	89	1.19	81	76	1.07	72	61	1.18	71	66	1.08	61	63	.97
Sept.	108	87	1.24	85	74	1.15	72	62	1.16	67	63	1.06	..	..	...
Oct.	109	85	1.28	83	72	1.15	65	60	1.08	68	61	1.11	..	..	...
Nov.	90	83	1.08	71	71	1.00	52	58	.90	62	60	1.03	..	..	...
Dec.	97	82	1.18	76	70	1.08	60	58	1.03	62	61	1.01	..	..	...

* Source: King, W. I., *American Statistical Association Journal*, June 1935, p. 400; quoted with the permission of the author and the publisher.

The effect of velocity of circulation of money during periods of acute inflation. Regardless of the degree to which changes in V may be offset by corresponding changes in T during ordinary cyclical movements, experience indicates clearly that changes in velocity of money may play an active part in times of acute price inflation. At such times, the value of money falls rapidly and its usefulness as a store of value declines. A "flight from the currency" develops as cash balances become an expensive luxury and individuals' desires to hold purchasing power in money form are drastically revised downward. Because of the increased velocity of money, prices rise at a rate faster than that of the increase in the quantity of money. This can be clearly seen in the behavior of money and prices in Germany during the postwar inflation of 1919-1923 shown in Table 26.

The postwar inflation in Germany was in no small measure the

result of the rapid increase in velocity of money, which in July 1923, was over fifty times greater than in January 1919. To put the matter in the language of the cash-balance approach, the pur-

TABLE 26

WHOLESALE PRICES, TOTAL CIRCULATION, AND INDEX OF MONETARY TURNOVER
IN GERMANY, 1919-1923 *

		<i>Index of Wholesale Prices 1913 = 1 (Monthly Average)</i>	<i>Index of Total Monetary Circulation 1913 = 1 (End of Month)</i>	<i>Rough Index of Monetary Turnover ($\frac{\text{Index of Prices}}{\text{Index of Circulation}}$)</i>
1919	Jan.	2.62	5.69	0.46
	April	2.86	6.34	0.45
	July	3.39	6.90	0.49
	Oct.	5.62	7.15	0.79
1920	Jan.	12.56	8.41	1.49
	April	15.67	10.28	1.52
	July	13.67	11.50	1.19
	Oct.	14.66	12.75	1.15
1921	Jan.	14.39	12.98	1.11
	April	13.26	13.38	0.99
	July	14.28	14.28	1.00
	Oct.	24.60	16.44	1.50
1922	Jan.	36.65	20.50	1.79
	April	63.55	24.84	2.56
	July	100.59	33.48	3.00
	Oct.	566.00	79.85	7.09
1923	Jan.	4,626	332	13.94
	April	5,988	1,090	5.49
	July	183,510	7,231	25.19
	Oct.	18,700,000,000	854,401,934	21.89
	Nov.	1,380,150,000,000	245,107,804,000	5.62
	Dec.	1,200,400,000,000	374,563,426,600	3.20

* Graham, F. D., *Exchange, Prices and Production in Hyper-Inflation: Germany, 1920-1923*, Princeton, Princeton University Press, 1930, pp. 105-106. Quoted by permission of the publisher.

chasing power the public wished to hold in the form of cash diminished rapidly. This event caused a sharp decline in the value of the total stock of money. In contrast to the 6 billion gold marks that constituted the German currency in 1914, the value of the 62,338 billion paper marks that comprised the German currency on August 7, 1923, was only 80 million gold marks.¹³

¹³ This figure is obtained by dividing the total number of paper marks in existence by the number of paper marks required to purchase a theoretical gold mark, measured in terms of the existing gold dollar exchange rate. Another method of computing the change in the value of the total currency involves dividing the total amount of currency by the index of prices based on 1914. Graham, F. D., *Exchange, Prices, and Production in Hyper-Inflation: Germany, 1920-1923*, Princeton, Princeton University Press, 1930, pp. 101-106.

It is inaccurate to ascribe to the increased velocity of money the whole of the increase in prices not accounted for by the increase in the quantity of money. The quantity of goods exchanged against the paper marks declined severely, partially because of a shrinkage in production and partially because of a growing practice of basing trade on the more stable foreign currencies and on barter.¹⁴

THE CASH-BALANCE EQUATION

Those who view the demand for money as the desire for purchasing power in the form of cash balances require a somewhat different formulation of the relation between money and its demand from that provided by the familiar transactions equation of $MV = PT$. To satisfy the requirements of the cash-balance approach, there is needed a way to show that the value of a given stock of money is determined by and is equal to the amount of purchasing power which the public insists that it have.

A familiar form of equation used to demonstrate the cash-balance approach is:¹⁵

$$M = PKT, \text{ or } P = \frac{M}{KT}.$$

In this equation, M is the effective money supply, held by the public; T is the total volume of real transactions settled in terms of money during a given period of time; and K is the fraction of T that the public wishes its money supply or cash balances to purchase. M must therefore be able to purchase a quantity of goods, services, and other "transactions" equal to KT . From this formulation it is possible to demonstrate that since $P = \frac{M}{KT}$, P will vary directly and proportionately with the quantity of money so long as KT , or the public's desire for cash purchasing power remains unchanged. Likewise, it can be demonstrated that without any changes in M , prices may change because of a rise or fall in the size of KT over which the public wishes cash purchasing power. Whenever a rise in precautionary or speculative motives for holding cash causes the fraction K to increase (from one-twelfth to one-tenth, for example), prices are driven down appropriately as the

¹⁴ *Ibid.*, pp. 173-174.

¹⁵ Robertson, D. H., *Money*, rev. ed., New York, Harcourt, Brace & Co., 1929, p. 195.

public slows down its spending in order to raise the purchasing power of its cash balances. Conversely, a decline in K due to a decline in the precautionary or speculative motives for holding cash causes prices to rise as the public speeds up its rate of spending. Also, when T rises or falls, prices change unless an offsetting change in M or K occurs at the same time. It is evident that K in this equation is the reciprocal of V in the equation $MV = PT$.

A comparison of the transactions equation with the cash-balance equation. The transactions equation, $MV + M'V' = PT$, quite obviously is a statement that, during a given period of time, the money spent equals the value of all the transactions. It is based on the transfer of money against other things. In contrast, the cash-balance equation, $M = PKT$, gives merely a kind of instantaneous cross-section view of the situation. It is as if all transactions were halted at the end of the day and an investigation launched into the monetary affairs of the public. This investigation discloses (1) that the public is holding a given volume of cash balances in the form of currency and bank deposits; and (2) that, if these cash balances were spent, they would purchase a given volume of goods and services KT . Thus, the transactions equation covers a period of time, whereas the cash-balance equation pictures the situation at a given instant.

There is, in fact, no real difference in the result obtained by the two approaches. Those who prefer the cash-balance to the transactions equation do so because they believe that it gives a more realistic approach to the "demand" for money. They hold that the demand for money cannot be properly thought of as the offering of all the goods, services, and so forth, against all the money supply. Instead they prefer the view that money, like other things, is wanted for its utility, which in this case is its purchasing power. The cash-balance approach focuses attention directly upon the volition of the users of money in respect to the amount of purchasing power they wish their stock of cash to have. This, it is said, is superior to looking directly at the velocity of circulation of money, about which there is no direct explanation.

Those who prefer the transactions equation object to the failure of the cash-balance approach to focus direct attention upon the vital point that the velocity of spending money may be a determining factor in the price level. Instead, the idea of velocity must be implied from K . Another reason for preferring the transac-

tions equation is its adaptability to statistical work. Statistical equivalents of M' , V , P , and T are obtainable with reasonable accuracy. In contrast, no direct statistical equivalent for K can be found, and any figures to represent it can be obtained only by indirect calculation.

It is well to remember that both types of equations of exchange are merely "truisms" or statements of identities from which one may embark upon a theoretical explanation of the relation between money and the price level. Each equation has merits of its own, and each contributes something to the understanding of monetary problems. They should be thought of as complementary rather than contradictory.

LIMITATIONS OF THE EQUATIONS OF EXCHANGE

Criticisms of the equations of exchange. Both the transactions equation, $MV = PT$, and the cash-balance equation, $M = PKT$, are useful devices for analyzing the relation between the quantity of money and the price level. They are essentially the same in that both relate the value of a given quantity of money to the value of a given quantity of goods, and services. Like all devices, they fall short of perfection and have been subjected to considerable criticism.

The basic criticisms that have been made of the equations of exchange are these:

1. They are static rather than dynamic in character. Correct as far as they go, they fail to provide any direct clue to the process whereby changes in the terms of the equations actually occur. They furnish no adequate explanation of the forces that institute changes, particularly those of the short run. This is, indeed, a serious criticism. The economist or the statesman, armed with nothing better than the vague assurance that in the long run price movements correspond to changes in the quantity of money, is sadly lacking in the equipment needed to approach that most fearful of modern economic demons, the business cycle. As Keynes has well said, "In the long run we are all dead"; it is in the short run that our most vital interests often lie. Even though one accept Snyder's view that short-run changes in V and T cancel out, leaving $M = P$, the equations offer no satisfactory answer to the question of whether, as commonly assumed by the quantity theorists, changes in M , particularly in the form of bank deposits, are determined by independent causes and result in changes in P , or whether independent causes induce changes in P , which in

turn result in appropriate changes in the volume of M . Moreover, the equations furnish no clue to the very plausible possibility that nonmonetary forces within the business structure operate simultaneously upon both M and P to cause corresponding changes in each.

2. Both equations of exchange necessarily deal with the price level in a very general sense. For instance, in the transactions equation, $MV = PT$, P is the price index, weighted according to the price per unit of each constituent of all transactions (T) settled with money. But T is a conglomerate mass made up of goods sold at retail and wholesale; payments of wages; rents; interest and profits; and securities, land, and old capital goods exchanged. Because of this, P must be an index of "prices" of this same conglomerate mass. But for purposes of economic analysis and control, something more is needed than an assurance that, other things being equal, a change in the quantity of money will cause a proportional change in the average price level of the heterogeneous collection of items that comprise T . Furthermore, T itself is a highly variable and largely unpredictable thing, embodying not only ordinary industrial and commercial transactions but also speculative transactions.¹⁶ Even though P , properly defined, may be explained in relation to M , V , and T , the equation is so inclusive that it fails to give a definitive answer to the primary problem of monetary theory, namely, why commodity prices change as they do.

Another objection sometimes raised to the price level explained by the equations of exchange is that it gives little direct help in explaining the movement of prices of consumers' goods. Not only does P include the prices of purely speculative and capital transactions, but also it is heavily loaded with wholesale prices and wage payments, which only indirectly and remotely reflect the prices of goods bought by consumers.¹⁷

Questions for Study

1. In what sense is the equation of exchange, $MV = PT$, a truism? What additional assumptions are necessarily made in order to use it as a means for expounding the quantity theory of money?

¹⁶ Cf. Hawtrey, R. G., *Currency and Credit*, rev. ed., London, Longmans, Green & Co., 1928, pp. 35-40.

¹⁷ Keynes definitely took the position that the purchasing power of money ought to be defined only as the power of money to buy goods and services for consumption. See his *Treatise on Money*, Vol. I, p. 54. Also see pp. 76-79 for the distinction between what he calls the "Currency Standards" or price level indicated by the transactions and cash-balance approach, and the "Consumption Standard" or price level of consumption goods. For his discussion of the limitations of the transactions and the cash-balance equations, see the *Treatise*, Chapter 14.

2. Why are the assumptions of the quantity theory largely invalidated by the introduction of bank credit and central banks?
3. If one admits the several limitations of the quantity theory: a) does it throw any light upon the long-run trends of the price level? b) does it help one to understand the initiation and magnitude of short-run or cyclical price changes?
4. a) What is Snyder's evidence in support of the quantity theory?
b) From what you know about changes in V , do you think that they can be dismissed as causes of short-run price level changes?
c) Were Snyder's conclusions in harmony with the ideas about speculative and precautionary motives for holding cash studied in the preceding chapter?
5. a) What is the meaning of each of the terms in the cash-balance equation?
b) How can the equation be used to demonstrate the quantity theory?
c) Why is K the reciprocal of V ?
6. What is the core of the argument that the equations of exchange are inadequate for analysis of price level changes because a) they are static, b) P is too general?

The Income Approach to the Value of Money

SOME OF THE LIMITATIONS OF THE QUANTITY THEORY EQUATIONS for use in explaining changes in the level of prices were noted in the last section of the preceding chapter. It was pointed out there that not only do these equations offer little assistance in explaining the process through which changes in prices materialize, but also they fail to direct attention to the forces that determine the prices of commodities and services as contrasted to the prices of all transactions settled with money. Some students of monetary theory believe that the "income approach" may be used to avoid some of the limitations of the more conventional quantity theory approach.

The income approach to the value of money. Essentially, the income approach is based on the fact that the spending of money income for goods and services determines their price. The pricing process is thought of as the matching of a flow of money income against the flow of goods and services produced and sold in the market. Unless corresponding changes in the flow of goods and services occur, any change in the flow of money income will cause a change in the price level.

The stream of money income is spent either for consumers' goods or for investments. Income spent for investment may be used to purchase securities or capital goods themselves. The manner in which money income is disbursed, therefore, affects the price levels of consumers' goods and capital goods. Obviously, the spending of net income is not the same as the spending carried on between businessmen during the process of production. For this reason, the income approach is basically different from the transactions approach. According to the former, the money in-

come for a period is spent for the real income of goods and services, and thereby prices are determined. The transactions approach, however, states that the total expenditures of all kinds, not merely the spending of net incomes, determine the value of *all* transactions, including those of an intermediate business and financial nature.

Equations expressing the income approach. To express the income approach to the value of money, one may say:

$$P = \frac{NI}{R},$$

in which NI represents the national money income for the period, R represents the volume of real income in goods and services, and P is the price level of such goods and services.

But the above equation fails to offer any clue to the causes behind the prices of consumers' goods as contrasted with capital goods. It is, therefore, more useful to take into account the fact that part of the money income is spent for consumers' goods and part for capital goods. Thus, if

NI is the total money income,

S is the money income saved,

$NI - S$ is the money income spent on consumers' goods,

RC is the volume of consumers' goods,

RB is the volume of capital goods,

then $\frac{NI - S}{RC} = \text{Price of consumers' goods},$

and $\frac{S}{RB} = \text{Price of capital goods}.$

But equations of this kind are in themselves inadequate and unsatisfactory. As they stand, they assume that all S is invested or spent on capital goods, an assumption that is not always true. Furthermore, they give no direct answer to the questions: (1) what determines the size of the national money income NI ; and (2) what determines the proportion that will be spent on consumers' goods and what proportion will be invested. Each of these questions requires exploration if the income approach is to be useful in analyzing the causes of price changes.

THE RELATION OF THE TOTAL MONEY INCOME TO THE QUANTITY OF MONEY

The total money income must necessarily bear some discoverable relation to the quantity of money. It is reasonable to sup-

pose that an expansion in the quantity of money will cause an increase in the flow of money through the economic system, and eventually, an increase in the money incomes of individuals and business firms. One may show this relationship by comparing the size of the total money income with the stock of money.

The income velocity of money. In the transactions equation, $MV = PT$, the velocity of money represents the average number of times that the stock of money is spent in the market for T . Total expenditures of all kinds (MV) divided by the stock of money (M) gives the average transactions velocity. To a very large extent, such money expenditures are used for business purposes, providing for trade between businessmen and for financial transactions. Part of these expenditures become net money income to the receivers. Income velocity is the average number of times that the average money stock appears as money income during any given interval of time. To calculate this, one divides the total money income for the period by the total average stock of money.¹

The income velocity of money, that is, the frequency with which the average stock of money reaches the income receivers, depends primarily upon the time involved in the production process, the number of exchanges carried on between different producers during the process of production, and the size of cash balances that businessmen and others hold in comparison to their average expenditures. For instance, an increase in the length of time required to carry through the processes of production lengthens the time interval between the spending of money by consumers and its re-emergence as income at the end of the circuit. Conversely, a shortening of the productive process tends to increase the income velocity of money by hastening its flow. An increase in specialization by individual firms increases the number of exchanges required to produce a given volume of goods, and delays the circuit flow of money from consumer to consumer. The reason for this

¹ "Income velocity" is sometimes referred to as "circular velocity." Cf. Angell, James W., *The Behavior of Money*, New York, McGraw-Hill Book Co., 1936, Chapter V. To use his approach, if NI is the national money income, C the circular velocity of money, and M the stock of money, then $C = \frac{NI}{M}$. *Ibid.*, p. 135. He suggests that, properly speaking, the flow of money is "circular" only when advancing the "unidirectional flow" of goods and services, and therefore most of the financial classes of transactions are outside the flow of payments which influence the size of money incomes. *Ibid.*, pp. 132-133.

is found in the fact that an increase in the number of business firms participating in the line of production tends to increase the aggregate cash balances required. Therefore, the result must be a slowing down of the rate at which the average unit of money appears as income. Similarly, any other change in the need for cash balances retards or accelerates the circuit flow of money from consumers' hands through industry and back again.²

There is evidence tending to establish the fact that income or circular velocity of money has a marked tendency towards stability. During the period 1909-1929, the annual income velocity of money in the United States varied from a high of 3.40 in 1913 to a low of 2.76 in 1921. The maximum drop from the highest to the lowest velocity, amounting to only 18 per cent, is remarkably small. But during the acute depression period between 1929 and 1932, income velocity fell from 3.05 to 1.86, a drop of 39 per cent. Furthermore, income velocity remained substantially below the level of the 1920's during the depressed years of the 1930's. During the war years, 1941-1945, income velocity rose moderately at first, but later declined and reached a new low of 1.68 in 1946. The figures for the annual circular or income velocity for the years 1909-1932 and 1938-1948 appear in Table 27.

The decline in income velocity since 1929 has raised speculation as to the possibility of its secular decline. Is the lowered rate of income velocity to be explained mainly in the abnormalities of the depression and war periods or has the public's liquidity preferences undergone such a fundamental change that the ratio of cash balances to income has risen permanently?

The importance of the concept of income velocity. To the extent that income or circular velocity is stable, it may be said that variations in money incomes are in proportion to changes in the supply of money. In spite of the sharp downward trend in income velocity after 1929, Professor Angell believes that, normally, income velocity tends to be reasonably stable. He is supported in this view by Lauchlin Currie.³ In still further support of his belief in the stability of income velocity, Angell found that, between 1909 and 1929, variations in national money income cor-

² Cf. Angell, *Behavior of Money*, pp. 139-144.

³ See his *Supply and Control of Money*, Cambridge, Harvard University Press, 1934, p. 6.

responded closely with variations in the volume of money and credit.⁴

This analysis has added one important link to the so-called *income approach* by establishing the relative stability of the income velocity of money. It strongly suggests that money incomes

TABLE 27
ESTIMATES OF THE CIRCULAR OR INCOME VELOCITY OF MONEY
1909-1932 AND 1938-1948 *

Year	Circular or Income Velocity	Year	Circular or Income Velocity
1909	3.25	1938	2.26
1910	3.13	1939	2.17
1911	3.01	1940	2.10
1912	3.20	1941	2.28
1913	3.40	1942	2.44
1914	2.97	1943	2.36
1915	3.11	1944	2.14
1916	2.91	1945	1.84
1917	3.10	1946	1.68
1918	3.04	1947	1.85
1919	2.81	1948	2.04
1920	2.99		
1921	2.76		
1922	3.03		
1923	3.25		
1924	3.21		
1925	3.21		
1926	3.29		
1927	3.14		
1928	3.14		
1929	3.05		
1930	2.70		
1931	2.26		
1932	1.86		

* Figures for the years 1909-1932 quoted by permission from Angell, James W., *The Behavior of Money*, New York, McGraw-Hill Book Co., 1936, p. 190. These calculations are based upon estimates of national income by W. I. King in *The National Income and Its Purchasing Power* and those of Simon Kuznets, *National Income, 1929-1932*. The stock of money was calculated from reported amounts of currency in circulation plus net demand deposits adjusted to avoid duplication. Figures for the years 1938-1948 are calculated from the revised figures for national income appearing in the *Survey of Current Business*, U.S. Department of Commerce, Supplement, July 1947; Annual Review Number, February 1949. The volume of money is taken from the estimates of total adjusted demand deposits and currency outside banks appearing currently in the *Federal Reserve Bulletin*.

⁴ Angell, *op. cit.*, p. 145, Chart XXII.

may be expected to fluctuate roughly with changes in the volume of money. In this connection, "money" refers to currency in circulation plus net demand deposits rather than to standard money. The conclusion concerning the relation between the quantity of money and the volume of money income, derived from the concept of a stable income velocity, is of greater significance than Snyder's studies, which seek to establish correspondence between the cyclical variations in V and T in the equation $MV = PT$. At best, Snyder's results can show only that changes in the volume of circulating money are accompanied by proportional changes in the general level of prices of *all items* contained in T .

RELATION AMONG THE QUANTITY OF MONEY, MONEY INCOMES,
AND THE PRICE LEVEL: HAWTREY'S APPROACH

In what way, one may ask, are the changes in the quantity of money, money incomes, and the level of prices brought about? A very useful analysis of the problem has been provided by R. G. Hawtrey.⁵ His analysis is based fundamentally upon the cash-balance approach. He sees three basic reasons why individuals wish to keep reserves of purchasing power in the form of cash: (1) the failure of income and expenditure to move together; (2) the necessity of being prepared for unforeseen emergencies; and (3) the necessity of accumulating savings awaiting investment. Traders require balances for similar reasons, but owing to the superior opportunities for borrowing at short term at banks, the traders require smaller cash balances relative to the amount of cash expenditures than do individuals. For each individual, the appropriate cash balance will bear some definite proportion to his income, whereas traders' cash balances are some proportion of their total expenditures. The demand for money is found in the requirements of the community for reserves of purchasing power.

The unspent margin. Hawtrey refers to the total stock of money (consisting of currency in circulation and bank deposits) as the *unspent margin*. It follows, therefore, that the unspent margin is synonymous with the sum total of consumers' and traders' cash balances. Moreover, it must rise or fall with the

⁵ For an account of his viewpoint, see his *Currency and Credit*, 3rd ed. 1928, Chapter IV; and *The Art of Central Banking*, London, Longmans, Green & Co., Ltd., 1932, Chapter III.

increases or decreases in the loans and investments of banks.⁶

Traders' outlay, consumers' incomes, and prices. Changes in the value of money are explained in the following manner. Whenever opportunity to borrow at profitable rates arises, traders (synonymous with businessmen) will increase their loans at the commercial banks. The resulting increases in traders' cash balances will be rapidly paid out in the purchase of goods and services and shortly must come into consumers' hands as income in the form of wages, salaries, interest, rents, and profits. This result must be expected, since the trader will be unlikely to borrow to increase his idle cash balance. Therefore, an increase in bank credit resulting from traders' borrowings must lead to a corresponding increase in the traders' outlay (or expenditures) and a corresponding increase in consumers' incomes.

Consumers' incomes, therefore, are likely to vary with changes in the volume of bank credit, rising and falling in more or less exact proportion except as traders themselves happen to absorb part of the change by varying the size of their cash balances. The outlay (expenditures) of consumers need not necessarily vary exactly with income, since changes in the size of their cash balances may occur. For example, an increase in money income may lead the consumer to indulge in the luxury of a larger cash balance; in this case, his increased outlay will be somewhat less than the increase in income. On the other hand, prospects of rising prices may encourage him to spend his cash balance down to a thinner level; this would cause his increased outlay to be somewhat greater than the increase in his income.

The consumer's outlay is spent on (1) consumption goods; and (2) capital goods or investments. The proportion of each type of outlay will depend upon his saving propensities. The aggregate volume of consumers' outlay is closely related to consumers' incomes, which in turn depend upon traders' outlay. Consumers' outlay is viewed as the significant factor in the determination of the price level, since it directly controls the prices of consumers' goods (these prices in turn control wholesale prices) and indirectly, through the prices of securities, controls the price level of capital goods.

⁶ *Currency and Credit*, 3rd ed., pp. 34 and 43.

But in another connection, Hawtrey uses unspent margin in the sense of the relation of cash balances to consumers' and traders' expenditures. *Ibid.*, pp. 58-59.

The degree to which increased consumers' outlay may affect the price level depends upon the degree to which it finds the production facilities of the community occupied. If adequate unused capacity exists, increased consumers' outlay reduces traders' stocks of goods and promotes an increase in production with little if any effect on prices. But if consumers' income and outlay continue to rise, sooner or later the production capacity of industry becomes utilized (not necessarily to the same degree in all industries), and expanded money outlay can only result in increased prices.

Thus, in a general way it is possible to trace the course of an expansion in bank credit through traders' outlay into consumers' income and outlay, until it finances either an expansion of production, higher prices, or both. To what extent is it possible to hold that changes in prices are proportional to changes in the volume of bank credit or unspent margin? We have already seen that to some extent the effect of more bank credit is absorbed in greater production. To this extent more money does not lead to higher prices. An expansion in bank credit may be accompanied by a more than proportional expansion in traders' outlay, consumers' income, and consumers' outlay. This may arise from a failure of traders' and consumers' demand for cash balances to expand in proportion to their outlay. When this occurs, the new cash created by the expansion of bank loans and investments fails to settle down readily into cash balances, but instead is spent at an abnormally rapid rate. In other words, the velocity of money has increased. Thus the outlay of cash over a given interval of time may increase faster than does the demand for cash purchasing power. Particularly is this true when rising prices reduce the attractiveness of holding cash. On the other hand, shrinking bank credit will cause traders' outlay, consumers' incomes, and consumers' outlay to decline. When prices fall, the demand for cash balances tends to rise, so that traders' and consumers' outlay may decline relatively more than the shrinkage in bank credit.

THE INEQUALITY OF SAVING AND INVESTMENT AS THE CAUSE OF CHANGES IN THE PRICE LEVEL

Keynes has criticized both the transactions equation ($MV = PT$) and the cash-balance equation ($M = PKT$) on the grounds that they fail to indicate the different monetary factors through which

"the causal process actually operates during a period of change." He therefore proposed to analyze the "causal process by which the price level is determined and the method of transition from one position of equilibrium to another."⁷ The theories of money that have been developed by the use of the older equations furnish a clue to the forces that establish a given level of prices. Keynes, like Hawtrey, however, is interested in the causes which induce *changes* in the price level. Furthermore, he is concerned with the problem of explaining the movement of prices of consumers' and capital goods as distinguished from general prices.

Why saving and investment become unequal. In the saving and investment analysis savings are defined as that part of money incomes not spent on consumption. Investment is defined as the money spent on capital goods. Because money savings and money investment result from the decisions of different individuals, there is always the possibility that they will not be equal.⁸ The amount of money savings responds to changes in the rate of interest. But even more is it influenced, in the short run, by the level of money income. When incomes are high, savings tend to expand. When incomes decline so do money savings. On the other hand the volume of investment is subject to change with changes in the profit expectations of businessmen. "The attractiveness of investment depends on the prospective income which the entrepreneur anticipates from current investment relative to the rate of interest which he has to pay in order to be able to finance its production."⁹ Whenever the forces operating upon the volume of saving and the volume of investment make them unequal, equilibrium is disturbed, prices change, profits or losses appear, and entrepreneurs expand or contract output.

The incentive to invest. "Investment" consists in spending money for the purchase of capital goods. These capital goods

⁷ Keynes, J. M., *Treatise on Money*, New York, Harcourt, Brace & Co., 1930, Vol. I, p. 133.

⁸ "Saving is the act of the individual consumer and consists of the negative act of refraining from spending the whole of his current income on consumption. Investment, on the other hand, is the act of the entrepreneur . . . and consists in the positive act of starting or maintaining some process of production or of withholding liquid goods." *Treatise*, Vol. I, p. 172. Also, "The business of saving is essentially a steady process. If there are disturbances in the economic world, these by affecting prosperity may react on the rate of saving. But a disturbance will seldom or never be initiated by a sudden change in the proportion of current income which is being saved." *Ibid.*, p. 280. Reprinted by the permission of Harcourt, Brace & Co.

⁹ *Ibid.*, p. 154.

may be of a durable sort (tools, equipment, or buildings) or may be short-lived (merchandise and raw materials). Any investment, therefore, causes a flow of money income into the hands of the owners of the factors of production used in making capital goods. Entrepreneurs will invest in capital goods only when they anticipate that their actions will result in some gain.

Two basic considerations determine the extent of gain to be realized and, therefore, the volume of new investment appropriate for any given time. The first of these considerations is the income that the particular investment may be expected to yield during the normal life of the resulting capital goods. The magnitude of actual yield from a given investment depends on (1) the absolute productive efficiency of the particular capital goods; (2) the law of variable proportions or diminishing productivity; and (3) the behavior of prices. When the technical efficiency of capital is high, its yield or marginal productivity tends to be high also. When capital is scarce relative to other factors, the yield on new capital is relatively high. Of greater importance than either efficiency or relative scarcity in determining the *variations* in yield on new capital investment are the changes in prices. When prices are rising, the profitableness of new capital investment is magnified because of lagging costs. When prices fall, on the other hand, lagging costs diminish and for a time may cause a complete disappearance of prospects of net earnings from new capital investment.

The second basic consideration affecting the desirability of making new investments in capital goods is the cost of obtaining funds for investment, that is, the rate of interest. Whether paid to the purchaser of securities or to the entrepreneur himself for the use of his own funds, the interest rate constitutes a cost of making new investments that must be deducted from the *net* yield on capital in order to determine whether or not that investment is to be worth while. New investment will not be pushed beyond the point where the expected marginal yield is just equal to the rate of interest. An examination of the forces operating to determine the interest rate must be postponed until Chapter 26. It is sufficient for our present needs to recognize the part played by the rate of interest in the determination of the willingness of entrepreneurs to invest in capital goods.

The flow of money income when saving and investment are equal. The flow of money income in economic society may be thought of as originating mainly in the money payments made by entrepreneurs to the factors of production.¹⁰ These money payments comprise all the costs incurred by the entrepreneurs in the way of wages, interest, rents, and owners' profits. So long as this income passes regularly and uninterruptedly through the hands of its receivers and back to entrepreneurs for the purchase of industrial output, the process of exchange moves smoothly along, the level of money income remains constant, and there is no reason, arising from the behavior of this income, why changes in prices or in output should occur. That part of income which is spent for consumers' goods moves readily back to entrepreneurs, and assuming that they do not allow their inventories to decline, will pass on through their hands and become income again. If that part of income which is saved is invested in capital goods in a prompt and regular manner, that is, if the rates of money savings and money investment are equal, these savings become the income of the factors of production engaged in making capital goods. It will be helpful to think of the continuous flow of production and income as being broken up into periods of such size that the income of one period cannot be spent or disposed of until the next period. Then the money income of what we may call Period I passes on to the entrepreneurs and becomes the costs of production and the money income of Period II. So long as the circuit flow of money income is neither augmented by dishoarding or monetary expansion nor reduced by hoarding or repayment of bank loans, the money-income of each succeeding period remains the same. In other words, so long as money savings of a period equal the net money investments of that period, the money income of the next period will remain equal to the income of the preceding period.¹¹

The behavior of money income and prices when investment exceeds saving. Let us assume a fall in the market rate of in-

¹⁰ Some money income originates from direct spending for consumers' goods created by self-employed labor.

¹¹ The analysis based upon the use of successive periods is presented by D. H. Robertson in his article "Saving and Hoarding," which first appeared in the *Economic Journal*, September 1933, and is reprinted in his *Essays in Monetary Theory*, London, P. S. King & Son, Ltd., 1940.

terest, which increases the attractiveness of new investment. Businessmen therefore expand their new investments at an accelerated rate and to the point where the expected marginal productivity of new capital equals the rate of interest. Voluntary money saving will not increase, but rather, will be discouraged by the lower rate of interest. If, therefore, money saving and money investment had previously been equal, the expanded rate of new investment can be carried on only by increased borrowing by businessmen at the banks or by a dishoarding of previously idle balances. The increased rate of new investment must, therefore, be accompanied by an increase in the quantity of money flowing into incomes. In other words, MV of the transactions equation must rise.

In order to visualize this process more clearly, we may again make use of the method of period analysis. Let us assume that the total income for Period I is \$1,000, of which three-fourths, or \$750, is to be spent on consumers' goods and one-fourth, or \$250, saved. Because of the attractiveness of new investment, during the next period entrepreneurs wish to invest \$350 instead of the \$250 made available by the savings out of the income of Period I. In other words, investment during Period II will exceed savings by \$100. There are two sources from which this additional \$100 may be obtained for new investment: dishoarding and an expansion in the volume of money. First, entrepreneurs may dishoard some of their previous hoardings of cash. Furthermore, they may sell securities to persons who have been hoarding cash while awaiting more favorable investment opportunities for past money savings. Second, entrepreneurs may obtain new cash funds created by an expansion in bank credit. These new funds may originate in two separate ways. (1) Entrepreneurs borrow directly from banks to obtain funds for working capital, that is, to finance the expansion of inventories and to some extent, under modern practice, to finance the purchase of tools and equipment. The growth of term loans is an example of borrowing at banks to expand fixed working capital. (2) Funds that result from bank credit expansion reach the entrepreneur when investment bankers, investors, and speculators borrow at banks to finance the carrying of securities and when banks purchase securities outright from investors, who then replenish their security holdings by the purchase of new issues. As a result of the spending on new investment during Period II of \$100 more than the funds provided by

money saving, the income for Period II will be expanded by the amount of the excess of investment over saving. In other words, income for Period II becomes \$1,100. So long as money savings are insufficient to provide the funds required for new investment, the money income for any given period will exceed that of the preceding period by an amount equal to the excess of investment over saving. This may be clearly seen in Chart 19.

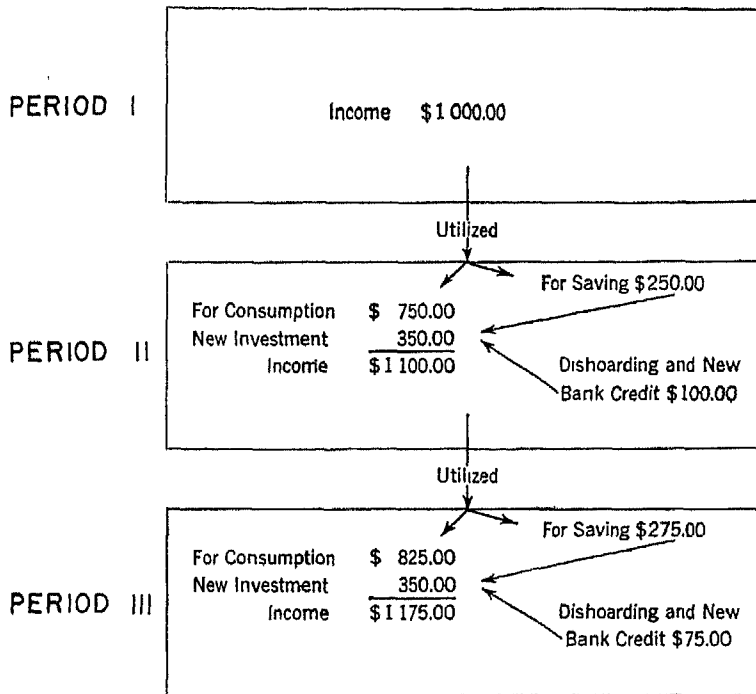


CHART 19. WHEN INVESTMENT EXCEEDS SAVING AND MONEY INCOME RISES. (Assuming investment in each period as \$350 and saving as 25 per cent of income.)

The expansion in money flow that accompanies the expansion in new investment in excess of current saving moves first into the capital goods markets, where it leads (1) to a rise in prices of capital goods; and (2) to an increase in their output. As soon as the expanded money expenditure is made on capital goods, it appears as increased money income of consumers, which in turn leads to increased expenditure for consumers' goods. The result will be some rise in prices and a tendency for the output of such

goods to increase. To the extent that their supply expands as new investment expands, prices of consumers' goods will not be affected, although a delayed expansion in their supply will lead to a decline in prices after an initial rise.

Secondary expansion. The rise in prices of consumers' goods above costs of production increases profits of the businessmen engaged in their production. This improved outlook raises the anticipated productiveness of new capital and furnishes another impetus to an expansion in the rate of investment. Investment will tend to exceed saving by still greater margins, new credit expansion will occur, and the expansion reaches the "Secondary Phase."¹² This is the expansion or boom phase of the business cycle. The excess of investment over saving gives businessmen increased profits, which in turn encourage a still greater expansion of investment. This cumulative process goes on until brought to an end by forces which become more and more powerful as the boom reaches its later stages.

Forces bringing expansion to an end. During the earlier stages of the expansion period, the increased consumer income arising from the expansion in investment is being spent on a relatively fixed output of consumers' goods. But when the new investment is complete, there becomes available new capacity for producing consumers' goods. Consequently, the flow of consumers' goods expands and the rise in prices tends to slow up. Moreover, a rise in money costs of production will develop as a result of upward adjustments in wages and because of growing inefficiency. Profit expectations will therefore be somewhat reduced and the demand for new investment in capital goods will taper off. At the same time, the rate of interest will rise, owing to the developing shortage of cash reserves in the banks. Previously existing excess reserves are used up both to care for the expanding volume of bank credit and to supply the increasing requirements for money in circulation. The banks therefore become less and less able to supply the volume of credit expansion upon which the boom is supported. Eventually the point will be reached where new investment begins to decline. Moreover, the increase in income causes a rise in the volume of saving. When investment no longer exceeds saving, the expansion phase of the cycle is at an end.

¹² Cf. Keynes, *Treatise*, Vol. I, pp. 287-288.

If investment would remain just equal to saving, the existing level of employment and prices would continue. But, once the expansion phase is reversed, the rate of new investment tends to decline sharply as business expectations experience severe setbacks. Savings, however, continue at their old rate and therefore exceed investment. This sets in motion a cumulative fall in prices and business activity, which continues until some stimulus to new investment occurs to revive it sufficiently to again equal or exceed saving.

The effect of an excess of saving over investment. When savings exceed the current expenditures of businessmen on new investment, the excess is hoarded as idle cash (or used to pay off bank loans), with the result that consumers' incomes shrink by that amount. Prices of consumers' goods therefore fall. Because costs of production will not immediately decline, businessmen suffer losses equal to the decline in prices represented by the excess of saving over investment. The losses of businessmen still further discourage new investment, so that the excess of savings over investment becomes greater, and the deflationary phase becomes cumulatively worse. Attempts of businessmen to escape losses by reducing output reduce incomes and prices of consumers' goods still further and pass the losses on to other businessmen. In the meantime, the decline in investment causes a fall in prices and output of capital goods. The process whereby income shrinks when saving exceeds investment is illustrated in Chart 20.

The above analysis, based upon the rate of saving and investment, provides an extremely useful method for discovering the forces that cause cyclical changes in prices and business activity. In this analysis, the monetary forces are seen as passive and permissive rather than active, causal factors. The supply of money and the banking system influence the rate of investment by influencing the interest rate. This approach does not invalidate the quantity theory equations but, instead, uncovers the underlying forces that generate changes which the equations merely record. It is concerned primarily with the forces causing a *change* in the price level rather than with an explanation of the *level* of prices that would exist in any given state of equilibrium. To find the answer to the question of the determination of the general level of prices, one must return to the transactions approach, the cash-balance approach, or the straight income approach.

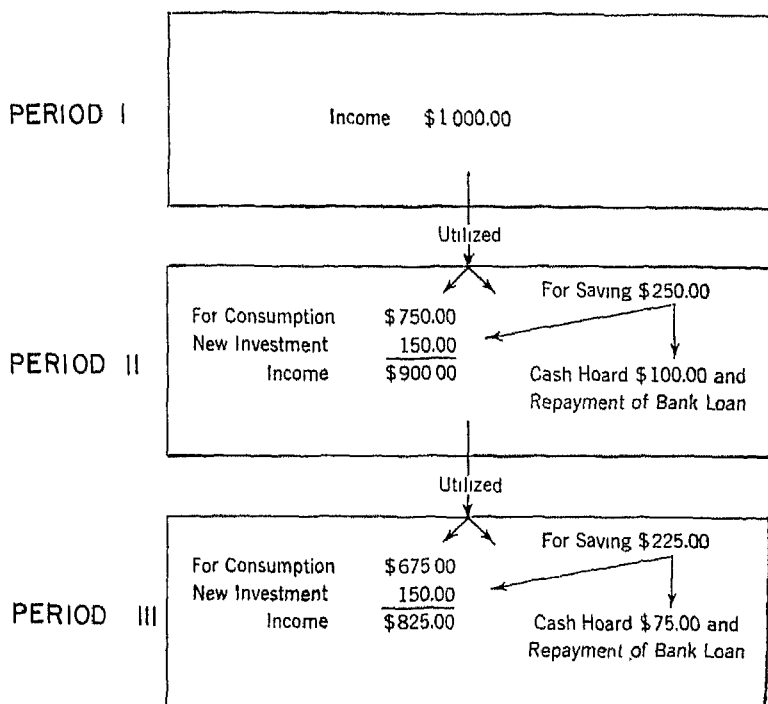


CHART 20. WHEN SAVING EXCEEDS INVESTMENT AND MONEY INCOME FALLS. (Assuming investment in each period as \$150 and saving as approximately 25 per cent of income.)

Questions for Study

1. What basic distinction has the income approach to the value of money in contrast to the quantity theory approach?
2. What is the distinction between the income velocity and the transactions velocity of money?
3. Does the behavior of income velocity, as shown in Table 27, support the view that the level of money income varies in proportion to the quantity of money?
4. a) Can you trace Hawtrey's analysis of the manner in which short-run variations in income are generated?
b) Would the same results follow a change in the expenditures of the government on borrowed money?
c) Does Hawtrey's analysis throw any light on the general level of prices?
5. The inequality of saving and investment is now generally accepted as a cause of fluctuations in income, employment, and prices.

- a) What is meant by saving? investment? b) Why are they often unequal?
6. Why are the incentives to invest likely to be unstable?
7. Do you understand why equality of saving and investment gives a stable money income flow? Explain it.
8. Examine Chart 19.
- a) Do you see why income flow expands when the rate of investment exceeds the rate of saving?
- b) What effect on money income flow would result from an expansion of government expenditures financed by 1) taxes on hoarded savings, 2) expansion of bank credit?
- c) What effect would result from an increase in consumer credit?
- d) If other forces can and do generate economic change, why the emphasis upon saving and investment?
9. What is the source of *secondary* expansion referred to in the text?
10. What circumstances cause the reversal of the expansion phase? Why can not expansion simply be leveled off at a high rate of output and employment?
11. How and when will the price level be affected by the expanding level of money income?
12. Chart 20 shows the contracting effect of an excess of saving over investment. Why and how can this situation develop?

Changes in Expectations and Output; the Multiplier

THE EQUALITY OF SAVING AND INVESTMENT

Keynes' treatment of saving and investment in his "Treatise." In his *Treatise on Money*, Keynes developed the idea that saving and investment become unequal, and because they do, changes in the output and in the price level take place. A decline in the rate of interest or an increase in the prospective marginal productivity of capital will expand the rate of new investment, whereas a rise in the interest rate or a decline in the prospective marginal productivity of capital will tend to reduce it. Whenever investment exceeds current saving, new money is created (or old money is dishoarded) to pay for the excess investment, prices rise, profits appear, and output expands. Conversely, when investment is less than saving, money is hoarded, prices fall, losses to businessmen appear, and output shrinks.

Keynes' later view of saving and investment. Although his general conclusions are substantially the same, Keynes modified his approach in his later book.¹ Here he concentrated his attention upon the forces that he believed to be responsible for cyclical variations in business activity and production. In this analysis, price level changes enter the picture only incidentally, for they are the results of more fundamental forces operating to cause changes in output.

He abandoned the position, previously taken in his *Treatise*,

¹ *The General Theory of Employment Interest and Money*, New York, Harcourt, Brace & Co., 1936.

that investment and saving become unequal and thereby introduce price, output, and income changes. Instead he used "common sense" definitions in which (1) "saving" means the excess of income over expenditure on consumption; and (2) "current investment" is equal to the value of that part of current output not consumed. By definition, then, saving and investment are equal,² for it cannot be denied that the cost value of the real goods produced but not consumed must equal the cost value of the goods added to the stocks of capital goods. Thus, in actual fact, out of any given income, savings are matched by equivalent accumulations of goods, whether the result of the spending of savings through the conventional or planned investment process or by the backing up of output in unsold inventories in an unplanned or unintended investment. This does not mean, however, that current planned or intended savings must or will equal the planned or intended rate of money investment. Hoarding of planned cash savings may occur, in which case saving exceeds planned investment; and dishoarded cash and newly borrowed bank credit may be spent on new investment in excess of planned savings. Using as a starting point his second concept, that saving must equal investment, Keynes developed an explanation of fluctuations in output, employment, and (incidentally) prices which deserves our examination.

The marginal efficiency of capital. It is, of course, a commonplace of economic analysis that business activity rises and falls as businessmen expand or contract their expenditures. In their hands resides the power to expand or contract output, employment, and incomes. Their decisions, of course, are not governed by caprice or accident but are directly related to the expectation of profit.

When businessmen expand their output, they necessarily expand their supply of capital, whether in the form of liquid stocks or in durable fixed form. Therefore, their decisions to expand output must necessarily be the result of advantages expected to accrue from these additions to their capital supply. To describe this basic factor in the decisions of businessmen, Keynes uses the term "marginal efficiency of capital." By this he means the "relation between the prospective yield of a marginal capital asset and

² Cf. his *General Theory of Employment*, Chapter VII.

its supply price or replacement cost.”³ Thus, it is the businessmen's expectations of the future income from the marginal units of capital (or the marginal efficiency of capital) compared with the present cost of obtaining that capital (that is, the current rate of interest) that determine whether or not they expand their investments. When, therefore, the marginal efficiency of capital is above the rate of interest, investment, incomes, and employment will rise. On the other hand, when the marginal efficiency of capital is below the interest rate, investment will fall, and with it output and employment. Variations in output are dependent upon changes in expectations as to the marginal efficiency of capital and upon changes in the interest rate.

The expansion of new investment. Let us assume that the willingness of businessmen to make new investments is increased because of a fall in the rate of interest, a rise in the marginal efficiency of capital, or both. If, previous to this change, the rate of planned or intended money saving (*i.e.*, the amount being voluntarily saved out of the current income) has been equal to the current rate of investment, the increased rate of investment can occur only through an expansion in total money expenditures. This increase in spending may be accomplished by dishoarding (or increasing the velocity of money) or by an expansion in the volume of money. In either case, savings, as planned out of current income, are less than the money actually spent on investment.

By this new spending, the businessmen obtain additional stocks of capital goods, and those individuals who are connected with the capital goods industries receive increased money incomes. Until they spend this increased money income, such individuals are in the position of having advanced capital goods to the businessmen in return for the cash being held. They are, therefore, temporarily engaged in saving. But this new money income will hardly be allowed permanently to fatten the cash balances of the receivers; especially is this true of wage earners previously unemployed. To a very large extent, the new money income that results from the increased rate of investment will be spent promptly for consumption goods. This in turn causes an increase in the output, employment, and incomes in the consumption goods industries. In the meantime, whoever holds the in-

³ Quoted, with permission, from *General Theory of Employment*, p. 135. For a discussion of the marginal efficiency of capital, see his Chapter XI.

creased stock of money that arises from the excessive investment is engaged in *unplanned* saving. From this unplanned saving comes the capital goods required for the increased investment.

Thus we see that new increased investment automatically calls into being an equivalent amount of new savings of the unplanned variety. They are unplanned in that they arise out of the lag between their receipt by the holders and their expenditure on consumers' goods. But, in time, the rising level of money income that is generated by the increased investment under consideration will result in a higher level of *planned* saving. Eventually, then, planned saving will rise to the level of investment and the expanding effect on income will have become exhausted.

The "multiplier" concept. The concept of the "multiplier" is most commonly applied to the relation between investment and the resulting money income and employment.⁴ The multiplier is used in two separate but very closely related senses. First, it is used to describe the amount of income and employment that may be expected to result from a given "lump" or increment of investment. Second, it is used to describe the ratio between an increased *rate* of investment (comprised of a series of recurring lumps) and the increased income flow generated thereby. Regardless of which application of the multiplier concept is made, under any given set of conditions its magnitude is the same in either case.

MULTIPLIER I: THE RESULT ON INCOME OF A GIVEN LUMP OR INCREMENT OF INVESTMENT

It will simplify our analysis of the multiplier if we begin with the familiar situation where planned saving and investment are equal and the income flow is consequently stable. Under these conditions, let us inject a lump or increment of additional investment and observe the results on income. In order that this new lump of investment can be made, businessmen must in some way get the money they need for the purpose. Obviously there are a number of possible sources. First, the firm may have assembled

⁴ This more properly should be called the investment multiplier to distinguish it from the multiplying effects of numerous other types of expenditures. Our attention is attracted to the investment multiplier especially because it is mainly through changes in investment that changes in income flow are generated in a private capitalistic society. During wars, government spending largely overshadows private investment.

cash funds out of depreciation allowances and out of net earnings withheld from stockholders. Second, savings from past periods now held in cash hoards of large income receivers may be tapped by borrowing or the sale of stock. Third, funds may be borrowed from commercial banks, which create new money. It is clear that the new lump of investment, the consequences of which we propose to trace, will necessitate bringing into active income circulation either money previously hoarded or newly created bank credit money. It will simplify our discussion if we refer to this money used to bring about a new lump of investment as *new* money. It is new so far as the existing active income circulation is concerned.

The expansion of consumers' incomes. New incomes arise directly out of the process of spending the "new" money in the making the new increment or lump of investment. But the resulting income is not the end result, for as we have already learned, the income of one period, when spent, provides the basis of income in the period that follows. Therefore the subsequent spending of the first round of income generates income for the next round.

Let us first assume that the receivers of income generated by the new lump of investment spend *all* of their additional income on consumption and save nothing.⁵ In such a case the income flow would be permanently increased by the injection of the new lump of investment. The amount of the increase, measured in terms of annual income flow, would then be determined by the income velocity of the money newly injected into the income circuit through the new investment. At the beginning, if consumers receiving shares of the newly generated incomes are laborers, the rate of spending would be high and the resulting flow of income during a given interval would likewise be high. For example, it has been calculated that the "period of circulation" of new wage payments from income to income again may be about two months.⁶ Obviously, if the new money put into the income circuit by our lump of investment should at first become income six times per year, the expansion of annual income will be six times the initial investment. Regardless of the rate at which initial receivers spend their incomes, however, sooner or later the income is distributed throughout the economy and gets into the hands of persons who

⁵ Their marginal propensity to consume is therefore 1.

⁶ Clark, J. M., *The Economics of Planning Public Works*, Washington, D.C., 1935, pp. 87-88.

slow down the income velocity. Eventually the new money would have an income velocity corresponding to the average for the general money supply. This slowing down occurs because of the need on the part of the public for higher cash balances to care for the increased volume of transactions incident to the increased income flow. Therefore, under our first assumption that added income is entirely spent on consumption, the new lump of investment could be said to cause an increase in the annual flow of income equal to the new investment multiplied by the income velocity of money. Unfortunately this happy result cannot, in fact, be expected. The reason lies, of course, in the unreality of the assumption that all new income is spent on consumption.

We must, therefore, make a second assumption that is more in line with economic reality. This assumption is that *not all* of the additional income is spent on consumption. Instead, a part is held in cash by the receivers. These cash withholdings, called *leakages* and discussed presently, reduce the income stream of the next income period. Only new and added investment can offset these cash hoards and restore them or their equivalents back to the income stream again. But because we are tracing only the effects of the initial lump of investment, we cannot properly assume that added incentive to invest will arise to absorb the cash hoards arising from the increased income flow. Should such a happy event actually occur, one could rejoice in the successful "priming" of the investment pump by the initial lump of investment. But this cannot be expected except under favorable conditions when business prospects are becoming brighter.

The "leakages." As we have already seen, the only reason why an initial lump of investment cannot be expected to result in a permanently higher income flow lies in the fact that not all new income is spent. The factors behind the hoarding of a part of the new income have been lumped together under the highly descriptive title of "leakages."

An important source of leakage is the increase in idle cash balances (or hoards) of income receivers. A most serious cause for this in times of depression lies in the unsatisfied precautionary and speculative motives of the public. New income, when available, may be devoted in part to the satisfaction of these desires for liquidity. The increased incomes of workers are unlikely to be hoarded for such reasons, but incomes of the well-to-do are

susceptible to such use. Furthermore, the increased purchases of consumers' goods accompanying the increased incomes enable businessmen, if they are so inclined, to *disinvest* by converting inventory and depreciating assets into cash and hoarding the cash. Clearly, hoarding part of the new money income to satisfy the precautionary and speculative motives of the public effectively withdraws the hoarded cash from the income stream. The magnitude of leakages of this sort is quite unpredictable. We may be certain only that they will be relatively high during bad times and may largely disappear during times when business prospects are improving.

A second source of leakage occurs when receivers of new income use part of it for debt repayment. If creditors repaid are banks, the debt retirement results in a reduction of the quantity of money by that amount. If debts are repaid to creditors other than banks, the money is piled up in idle cash balances of the creditors. In either case, the new money is effectively removed from the channels of trade and only an expansion of new investment will restore it to the income stream.

A third type of leakage arises from the normal tendency for savings to expand as a result of the increase in income generated by the input of new money investment. Clearly, without a sufficient stepping up of the *rate* of new investment to absorb these new savings, they will become idle cash and thus will have leaked out of the income stream.

Yet a fourth form of leakage occurs when the expansion of income stimulates imports from abroad and causes a net outflow of funds. Until a corresponding expansion of exports develops, the leakage from such a situation tends to continue.

In respect to these leakages one thing stands out clearly. The size of the total leakages that may be expected from each turnover of income is highly unpredictable. Especially is this true of those arising from reduced profit expectations, for as we well know, the motives for hoarding cash among businessmen are highly variable. On the other hand, the fraction of additional income that will be saved as a result of a regular program of planned individual and firm savings is relatively easier to estimate. Even here, however, accurate prediction is by no means easy.

The effect of leakages on the volume of new income generated by a lump of new investment. If, out of the new income gen-

erated by our initial lump of investment, each receiver devotes a part of what he gets to the fattening of his cash hoards, the flow of income must inevitably decline in each succeeding round. Eventually all of the new cash put into the income stream by the lump of investment must be absorbed into these idle balances and its power to generate additional income will have evaporated. It becomes important, therefore, to learn how much total income may be expected to be generated by the initial investment before its effects have entirely faded away through leakages into idle hoards and canceled bank credit. The answer can be calculated only if one knows the rate of leakage to be anticipated. Reliable estimates of such leakages are impossible to make, especially during depressions. For purposes of illustration, however, let us assume that one-half of each dollar of new income generated by our lump of investment leaks away, *i.e.*, is not spent by its receivers. In this case the new income generated for each dollar of new investment would be $\$1.00 + \$.50 + \$.25 + \$.125 + \$.0625 + \$.03125 + \dots$, or a total of $\$2.00$. Or, if we assume that income receivers spend two-thirds of their incomes and hoard one-third, the total new income resulting from each dollar of new investment will be $\$1.00 + \$.66\frac{2}{3} + \$.44\frac{4}{9} + \dots$, or a total of $\$3$. Similarly, if receivers hoard one-quarter of their new incomes, the total resulting income from an initial dollar of investment will be $\$4$. The size of the multiplier, *i.e.*, the ratio of new income to new investment, is 2 in the first example, 3 in the second, and 4 in the third. The size of the multiplier, therefore, is the reciprocal of the fraction of the new income that is not spent. To apply this to public works investment, if $\$10,000,000$ is spent at a time when the public tends to hoard one-third of its added income, the multiplier is 3 and a total of $\$30,000,000$ in new income will arise before the effects are finally exhausted. It must be clearly recognized, of course, that such estimates of the income to be expected from a given investment depend entirely upon the estimate of the leakages operating at the time. As such, they do not deserve too much confidence.

MULTIPLIER II: THE INCOME GENERATED BY AN INCREASED RATE OF INVESTMENT

Let us assume that the marginal efficiency of capital increases, relative to the rate of interest, so that businessmen wish to expand

the *rate* of investment. This involves a *series* of lumps of investment such as we have described above under the heading of Multiplier I. For ease in analysis let us again assume that before the rate of investment is raised the rate of planned saving was just equal to the rate of planned investment and therefore that the income level was stable. The increase in the rate of investment can be financed only by an expansion in the flow of money (MV), which involves borrowing new money from banks or drawing on old hoards of cash.

Each lump in the series of investments constituting the increased rate of investment will generate a declining series of new income payments examined under the heading of Multiplier I. The significant question that requires an answer involves the effect upon the level or flow of income that can be expected from a given rise in the *rate* of investment. The answer is easy as soon as agreement can be reached on the correct assumption in respect to the size of the leakages. For example, if it be assumed that one-half of all new income will leak away into idle hoards, it is obvious that the increased rate of investment can generate new income and employment only until the point is reached where cash hoards accumulate out of the increased income flow at the same rate that "new" cash is being injected by the successive lumps of investment. Under our assumption that one-half of all additional income is hoarded or leaks away into idle cash balances, the maximum increase in the rate of income flow is twice the increase in the rate of investment. Thus, if investment has been increased by the amount of \$1,000,000 per year, the resulting increase in annual income can be no more than \$2,000,000. At that level leakages are \$1,000,000 per year and nullify the inputs of that amount of investment. In this case the multiplier is 2. Should the assumption be made that leakages constitute but one-quarter of any additional income, the multiplier is 4 and the \$1,000,000 increase in annual investment can lift the annual income level by \$4,000,000 before the leakages are sufficient to just offset the new investment. The manner in which the added series of lumps of investment affect the flow of income may be seen in Table 28. It will be readily seen that the maximum results on income materialize only after the passage of considerable time.

The relationship between the increased rate of investment and the resulting increase in income holds true regardless of the dis-

TABLE 28

EFFECTS OF A SERIES OF \$100 INPUTS OF INVESTMENT ON TOTAL INCOME PER PERIOD OF INCOME TURNOVER

(Assuming an interval of four months from income to income, and a marginal propensity to consume of one-half)

Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9	Period 10	Period 11	Period 12	Total Income
Investment Input												
Jan. 1	\$100 →											\$100.00
May 1	100 →											150.00
Sept. 1	100 →	\$25 →										175.00
Jan. 1	100 →	50 →	\$12.50 →									187.50
May 1	100 →	50 →	25 →	\$6.25 →								193.75
Sept. 1	100 →	50 →	25 →	6.25 →	\$3.125 →							196.87
Jan. 1	100 →	50 →	25 →	6.25 →	3.125 →	\$1.56 →						198.43
May 1	100 →	50 →	25 →	6.25 →	3.125 →	1.56 →	\$.78 →					199.21
Sept. 1	100 →	50 →	25 →	6.25 →	3.125 →	1.56 →	.78 →	\$.39 →				199.60
Jan. 1	100 →	50 →	25 →	6.25 →	3.125 →	1.56 →	.78 →	.39 →	\$.19 →			199.79
May 1	100 →	50 →	25 →	6.25 →	3.125 →	1.56 →	.78 →	.39 →	.19 →	\$.09 →		199.88
Sept. 1	100 →	50 →	25 →	6.25 →	3.125 →	1.56 →	.78 →	.39 →	.19 →	.09 →	\$.045 →	199.93

The sum of the income increments designated by the slanted arrow represents the total income resulting from a given \$100 lump of investment. In our assumed example the main results (\$199.93) are achieved by the end of the fourth year (twelfth period) even though the complete results (\$200) require an infinite number of periods. Likewise the maximum level of income (\$200) per period resulting from the successive \$100 investment inputs is approached, although not entirely reached, at the same time. This result is indicated by arrow →. If income turnover periods are assumed to be shorter the ultimate maximum significant results on income will be achieved earlier. Furthermore, if the marginal propensity to consume is assumed to be greater, the maximum effect on income will be greater and be reached at a later period.

position made of the accumulating cash hoards resulting from the leakages. For example, during depressions, when the hoarding propensities are high, any increased investment may or may not be financed by drawing on the current accumulations. If not, the investment process will require borrowing of new money from old hoards and from the banks. In more normal periods, however, especially when private investment is expanding, the current savings made for investment purposes expand until they provide all the funds necessary for the increased rate of investment. It will be helpful, in understanding the operation of the multiplier and its limits, to examine Chart 21.

Factors determining the volume of savings: The propensity to consume. One of the most important sources of leakages, particularly in times when business expectations are good, is the tendency of individuals and firms to engage in planned or intended saving. This is in contrast to the failure to spend because of liquidity preferences growing out of changing expectations of business. Because of the dominant part played by such saving in the determination of the size of the multiplier, we shall examine briefly some of the factors that determine it. Keynes uses the term "propensity to consume" to indicate the ratio of a person's consumption to a given income. He holds first, that the "propensity to consume" is fairly stable. Therefore, although different individuals receiving given incomes will spend on consumption different proportions of their incomes, on the whole for any given level of money incomes, the proportion of total income which will be spent on consumption tends to be stable. It follows that the total volume of saving that results from a given level of income is likewise stable and but little affected by changes in the rate of interest.⁷

Because man's habitual standards of living constitute a first claim upon his income, short-run increases in income are likely to be utilized to expand savings, provided that the previous income was sufficient to satisfy the habitual standards. Likewise, a decline in income will most likely cause a greater shrinkage in savings than in consumption. Keynes holds it to be a fundamental psychological principle that, when income increases, consumption increases by a somewhat smaller amount.⁸ Therefore, the propensity to consume—the ratio of consumption to income

⁷ *General Theory of Employment*, pp. 93-94 and 95.

⁸ *Ibid.*, pp. 96-98.

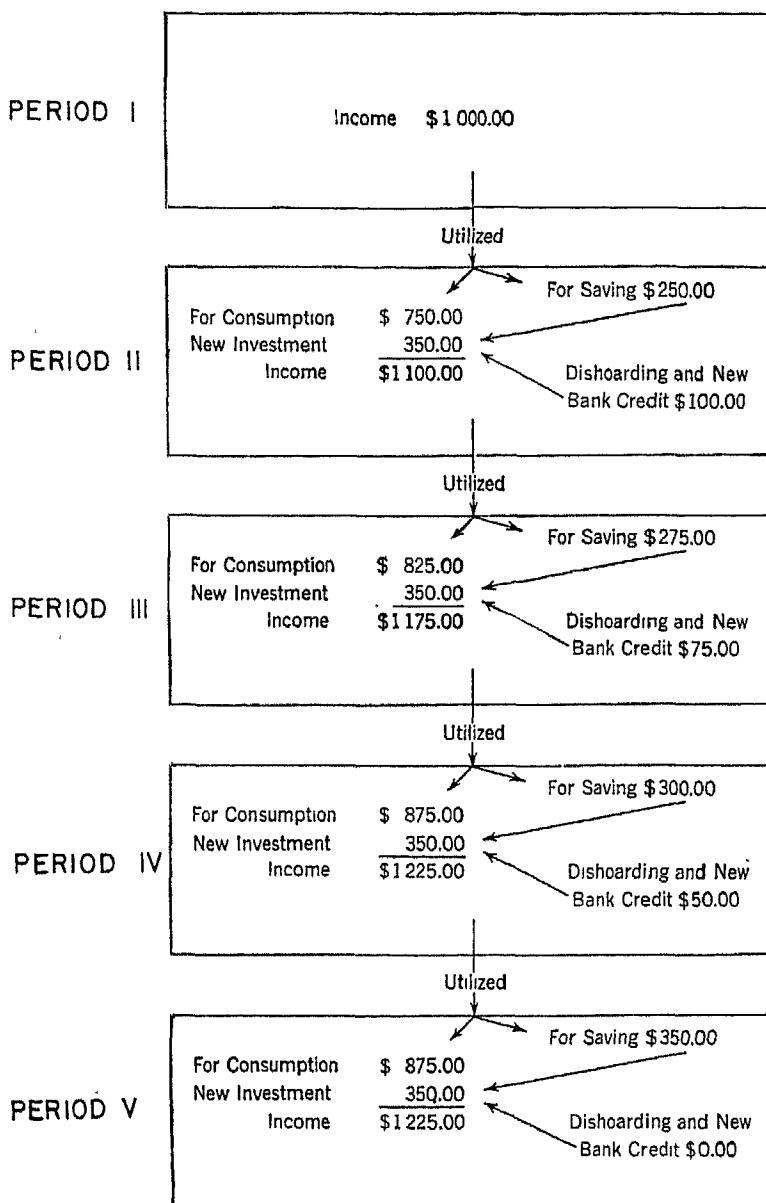


CHART 21. THE MULTIPLIER—PHASE II: RATE OF INVESTMENT ABOVE THE RATE OF SAVING.

—tends to decline somewhat with increases in income. Keynes concludes that during any given interval of time the volume of saving varies directly with the volume of income. Moreover, the changes in the volume of savings will be more than proportional to the changes in income.

THE MULTIPLIER IN REVERSE

Just as a new lump of additional planned investment generates a series of additional though diminishing increments of income, so a reduction or a withdrawal of a given lump of planned investment from the existing stream will generate an income shrinkage. For, since the injection of the lump of investment, if carried out, would have caused a given increase in the ultimate aggregate income, so the failure to make this lump of investment must cause a *loss* of aggregate income of equal magnitude.

Similarly, a reduction in the *rate* of investment from its existing level generates a fall in the level or rate of income. The fall in income must continue until a rate is reached at which the savings or leakages have declined to the level equal to the new lowered rate of investment. This may be seen in Chart 22.

THE SIGNIFICANCE OF THE SIZE OF THE MULTIPLIER

It must be noted that the size of the multiplier, and hence the degree of effect of investment on income, varies inversely with the public's saving (and hoarding) propensities. If the fraction of new income saved is small the multiplying effect of either a new *lump* or an increased rate of investment will be relatively large. Similarly, in such a case a decline in investment will tend to generate large reductions in the income level. On the other hand, when the propensity to save and hoard is high, changes in the rate of investment have a more modest influence on the income level. For this reason during depressions new investments may provoke but a modest improvement in the level of income because of a high tendency to hoard. During good times, when hoarding is insignificant, new investment will have a greater effect on the income level. Thus we may conclude that in a country having a high marginal propensity to save, changes in the rate of investment will have but slight effect on the income level, whereas in a country having a low marginal propensity to save, changes in the rate of investment will have a relatively large effect on the level of income.

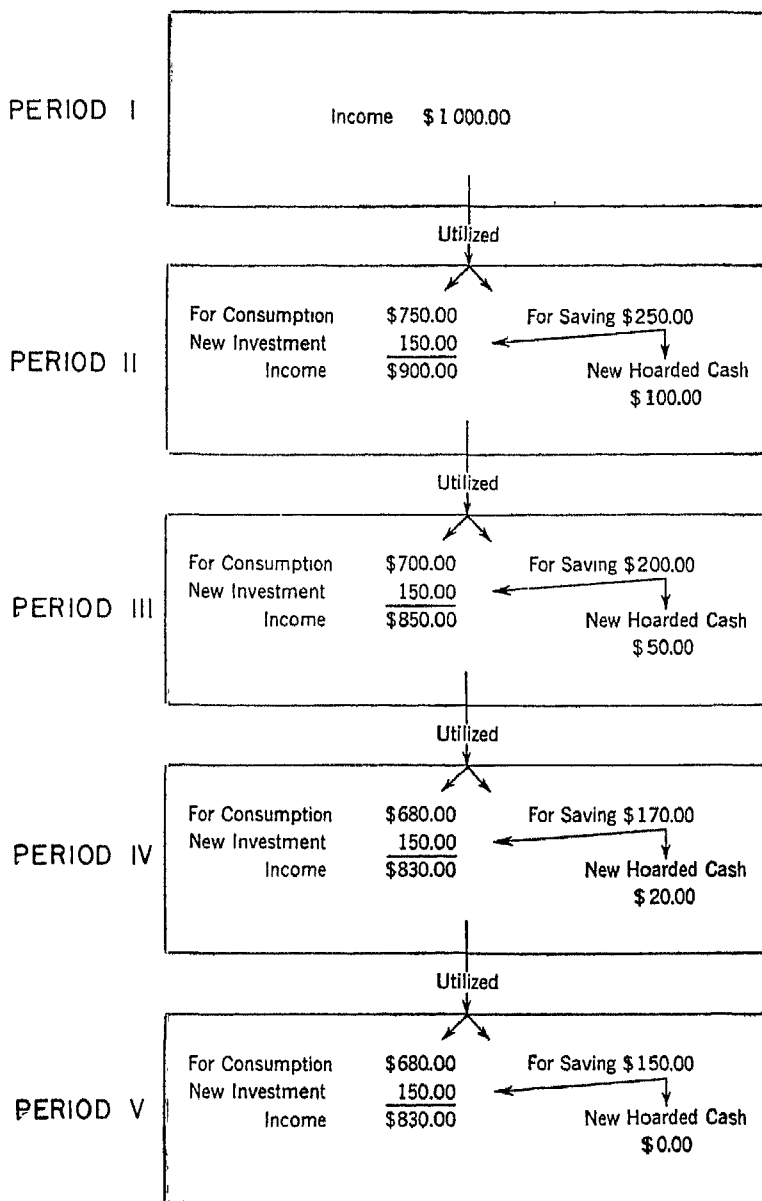


CHART 22. THE MULTIPLIER—PHASE II: RATE OF SAVING ABOVE THE RATE OF INVESTMENT.

SECONDARY INVESTMENT

In the foregoing illustrations of the operations of the multiplier, it was assumed that the disturbance to a state of equilibrium in which saving and investment were equal arose out of either a change in the rate of interest or a change in the marginal efficiency of capital. It was assumed that when a disturbance in either of these two important factors occurred, the multiplier operated to restore equilibrium. But the situation is more complex than this. If, for example, a decline in the rate of interest leads to an increased rate of new investment and an expansion in incomes and business activity, there is almost certain to follow some improvement in profit expectations. There appears, therefore, a new and cumulative incentive to expand investment. The new employment which arises from the operation of the multiplier upon this additional investment merges into the original increase. This cumulative expansion in investment and employment is sometimes described as the principle of *acceleration*. It is obvious that the acceleration principle operates in the opposite direction to reduce investment and incomes once a decline in investment below saving appears and a fall in output, incomes, and prices gets under way.

THE MULTIPLYING EFFECT OF ANY TYPE OF EXPENDITURE

In our analysis of the multiplier we took for our starting point an equilibrium position in which planned money savings and money investment were equal and the income level stable. It must be recognized, however, that the same multiplying effect exists regardless of the economic state when a new increment or lump of investment is made in excess of the pre-existing rate. Should the change in investment be introduced at a time when an excess of planned savings over investment is driving down the income level, the change in investment, away from the existing level, merely modifies the existing income trend.

It must also be kept in mind that *any* expenditure that results in money income has a multiplying influence on the income of subsequent periods. This is true because the expenditure of one period, whether by consumers or by investment, becomes the income of the next. Consequently any increase in consumers' expenditures over the existing level, whether based on the utilization of past cash savings, an expansion of consumer credit, or a govern-

ment dole, tends to have the same multiplying effect as an increase in investment. The emphasis on the effects of changes in investment arises from the recognition of the significance of investment, in contrast to consumer expenditure expansion, for the maintenance of a desired income level in a private economy. It is mainly the failure of investment to keep pace with the savings of a given desirable income level that jeopardizes the maintenance of that level.

Questions for Study

1. What are Keynes' "common sense" definitions of saving and investment?
2. Do you see how an expansion of savings (i.e., reduction of consumption spending), may cause unplanned investment?
3. Suppose the rate of investment becomes higher than the rate of planned savings.
 - a) What results must occur in the flow of money income?
 - b) How will this surplus of investment above planned saving immediately be accompanied by a corresponding volume of unplanned saving?
 - c) If the rate of investment is maintained, why will there ultimately result an increase in planned saving?
4. What is the meaning of the term "marginal efficiency of capital"? How would it be affected by: a) improved prospects of business profits? b) a falling price level? c) invention? d) discovery of new resources?
5. What would be the effect on the annual income level if all the new income that results from new investment were spent on consumption, i.e., if the marginal propensity to consume were 1?
6. a) Why is the assumption in question 5 a false one?
 b) What would be involved in "priming the investment pump"?
7. Why are the leakages likely to be higher in depression than in prosperous times? To what extent are they more unpredictable during depressions?
8. Multiplier II relates to the ratio of the flow of income to the rate of investment:
 - a) If the leakages are one-fourth, how much added income will result from a given added lump of investment of \$1,000?
 - b) How will the level of income be affected by an increase in the annual rate of investment by \$1,000?
9. Why did Keynes think that the public's marginal propensity to

consume is stable? How does this belief affect his conclusions about the behavior of savings?

10. Can you trace the manner in which a shrinkage in the rate of investment must affect the level of income?
11. Why is it correct to say that changes in the rate of investment cause little change in the income level in a country having a high marginal propensity to save?
12. Suppose that the marginal propensity to save is high. What does this mean about the rate of investment necessary to *maintain* a given level of income?
13. Is it clear that the multiplying effect of expenditure is the same whether it is made for investment or consumption?

The Rate of Interest and the Price Level

BECAUSE OF THE MANNER IN WHICH MODERN MONETARY SYSTEMS are set up, with bank credit comprising the main part of the supply of effective money, it is inevitable that the rate of interest should occupy a strategic place in monetary theory. In the quantity theory approach, changes in the discount rate provide the means of converting a change in the supply of standard money into a corresponding change in the quantity of bank credit. In the income approach, it is the interest rate that is the determinant of the cost of expanding industrial output and incomes. In almost all plans for exercising monetary control, the discount rate plays an important part.

It would be presumptuous in the limited space that can be taken here to pretend to analyze with any completeness or with any high degree of exactness the factors that determine the rate of interest. The explanation of the long-term interest rate has properly been the subject of long and careful study in the field of general economic theory. It is appropriate here merely to mention the more generally accepted explanations arrived at by the economic theorists and to examine the more strictly monetary aspects of the interest rate.

THE EQUILIBRIUM RATE OF INTEREST

Under any given circumstances, there is some rate of interest at which all money savings will be demanded for investment. Such a rate of interest, which equalizes money saving and investment, is known as the *equilibrium* or *natural* rate. It is convenient to differentiate between an equilibrium rate of interest that tends to equalize the rate of saving and investment in the

long run, that is, the rate that tends to keep the level of saving and investment equalized over a long period, and the short-run equilibrium rate, which equalizes money saving and investment during different stages of the business cycle.

The long-run equilibrium rate. The long-run equilibrium rate of interest tends to be relatively stable. Like any other price, it is determined by the forces of supply and demand. The supply of capital available for investment in the long run is the result of voluntary saving by income receivers who, for various motives, choose to refrain from spending on consumption all of their current income. At some point the saving of added amounts becomes irksome, and to overcome this irksomeness of saving the marginal units of capital, some reward must be offered. This necessary reward is the "supply price" of capital, for without it the supply of savings needed to satisfy the demand would not be forthcoming. Because of the greater irksomeness of saving increased amounts, greater rewards, in the form of higher interest rates, are required to obtain an increased volume of current savings under given conditions.

The demand for capital rests primarily with the businessmen who anticipate that new investment in capital can be made to yield a net return.¹ Because of the operation of the law of diminishing productivity, added amounts of capital used by businessmen will have smaller and smaller marginal products, other things remaining equal. Beyond a certain point, therefore, businessmen will expand their use of capital only when they can get it at lower rates of interest. That rate of interest which equalizes the long-run rate of saving and investment is the long-run equilibrium rate.

The short-run equilibrium interest rate. The short-run equilibrium rate of interest is one that will bring into equality the short-run or current money savings and current investment. In contrast to the relative stability of the long-run equilibrium rate of interest, the short-run equilibrium rate tends to be highly unstable.² The instability in the short-run or cyclical equilibrium

¹ This statement disregards the place of consumer borrowing that must be added to business borrowing to make up the total demand for savings. In times of war, the borrowings of the government may quite overshadow the capital demands of business.

² It is well to remember that our discussion of long-run and short-run equilibrium rates of interest does not refer to the difference between the interest rate on long-

rate of interest arises not so much from fluctuations in the volume of saving, which Keynes properly points out as responding primarily to changes in the level of money incomes, as from changes in the willingness of entrepreneurs to invest in capital goods. The changes in profit expectations that occur in the different stages of the business cycle, therefore, may properly be credited with the responsibility for the instability of the short-run equilibrium interest rate.

Whenever the actual or market rate of interest diverges from the equilibrium rate, disturbances appear in the economic structure. When the market rate is below the equilibrium rate, investment expands beyond current money savings, and money incomes, prices, and output tend to rise. Whenever the market rate is above the equilibrium rate of interest, investment falls below saving, and money incomes, prices, and output fall. The explanation of cyclical movements in business activity, therefore, would seem to demand an inquiry into why the market rate and the short-run equilibrium rate of interest fail to coincide. We have already suggested that the short-run equilibrium rate is highly unstable during the different stages of the business cycle. It is enough for our purpose to recognize this instability without attempting to probe deeply into the nonmonetary causes that lie behind it. The general causes behind cyclical fluctuations in business expectations are the subject of specialized study in business-cycle literature and are beyond the scope of a study of monetary theory. It is desirable, however, to inquire into the forces that determine the market rate of interest and the reasons why it fails to equal the equilibrium rate.

THE MARKET RATE OF INTEREST

Before examining the general principles behind the determination of the market rate of interest, it is well for us to remember that in reality there are a multitude of market rates, each applicable to loans of a different degree of risk and of a different maturity. These rates are maintained in an appropriate although

term and short-term loans. The loan market, at any given time, contains a number of different subdivisions within which fall loans of different maturities. These loans are arranged according to the requirements of borrowers and lenders. The rate of interest generally is lower for short- than for long-maturing loans because of their liquidity to the lender and their inferior advantages to the borrowers.

by no means a fixed relation to each other in the light of existing borrowers and lenders. If short-term rates become too high in comparison to long-term rates, some individuals will borrow at long term and lend short. The opposite will occur if short-term rates become too low. This will be discussed further on page 506 following. What we say about the market rate of interest, therefore, applies to the general behavior of these separate, individual rates.

The market demand for investment funds. Under any given set of circumstances, the demand for investment funds may be represented by the conventional demand curves shown in Chart 23. The demand for funds by entrepreneurs reflects the demand for capital goods. Because capital responds to the law of diminishing returns or diminishing productivity, larger amounts will be put to use, other things being equal, only at lower rates of interest. The absolute amounts of capital which entrepreneurs will require at any given schedule of interest rates depends upon the expectations of general productivity of new capital to its owners. Thus,

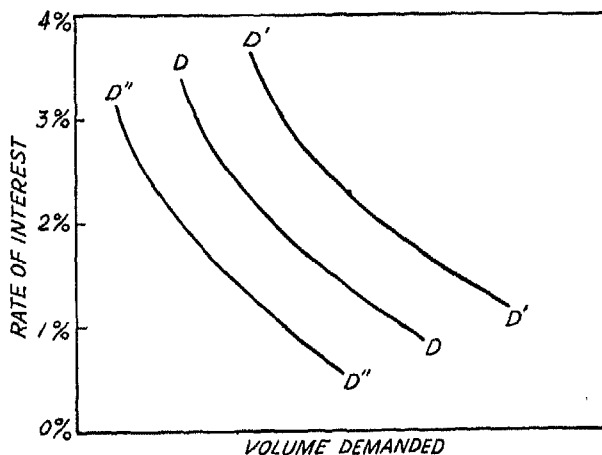


CHART 23. THE DEMAND FOR INVESTMENT FUNDS.

when new inventions, new supplies of natural resources, or a growing population characterizes the period, the general level of productivity of capital increases and is indicated on the chart by moving the demand curve to the right. Thus, $D'D'$ indicates an increase in the attractiveness of new investment. But of vastly greater importance in explaining the cyclical changes in the loca-

tion of the demand curve is the fluctuation in profit expectations. During the upswing of business, profit expectations from new investment are high, and the demand curve for capital moves sharply to the right. During the downswing, expectations of profits from new investment fall sharply, and the demand curve moves to the left ($D''D''$). Contributing heavily to these changes in the location of the demand curve for investment funds are, of course, changing levels of prices. Regardless of the originating cause of changes in profit expectations, once the cyclical movement begins, accompanying changes in prices accentuate the change in profit expectations and cause the movement to become cumulatively greater. The forces operating to cause violent and sudden changes in the demand for capital are the same ones responsible for changes in the equilibrium rate.

The market supply of investment funds. The amount of funds offered for investment during any given period is not a fixed amount but varies with the rate of interest. The supply curve of investment funds, therefore, resembles any other supply curve in that it slopes upward and to the right, as is shown in Chart 24.

The primary source of investment funds is the money savings of income receivers. These funds, however, are not necessarily offered for investment regardless of the interest rate. On the contrary, a low rate of interest will reduce the willingness of savers to lend or invest their funds. Like any person having an existing supply of something that may be offered or withheld, the savers of money have their "reservation prices." If the rate of interest is high, they are encouraged to lend or invest a larger volume of their savings than if the interest rate were low. Three separate reasons help to explain why savers may refrain from lending or investing their funds at low rates of interest. First, any lending or investing of funds involves a certain amount of cost and trouble. Unless the promised or expected rate of return is in excess of the cost of making and administering the investment, savers are better off if they simply hoard their savings in cash and avoid investment altogether. Second, in most private investment there is some degree of risk of loss of income or principal. Unless, therefore, the expected returns over the cost of making and administering the loans are sufficient to compensate for the risk, savers will prefer to hoard rather than to invest their cash savings. Finally, there is the question of the future interest rate. Even though the ruling

interest rate is high enough to cover risk and cost of administration, savers will still refrain from long-term lending if they believe that the interest rate is likely to rise in the near future. The reason for this is not hard to see. Whenever the saver believes that the cost of waiting (that is, of going without the interest that could be earned by lending at the current rate) is less than the gain to be derived from the increased interest rate, he will prefer to hold his money idle until interest rates rise. The strength of this motive for postponing investment will depend upon (1) the difference between the current and the expected interest rate; and (2) the length of time before the increased rate of interest is expected to become a reality. Thus, if the expected rise is small, or if the interval of waiting is expected to be long, the motive to postpone lending is small.³ This tendency of savers to hold out for higher rates of interest partially explains the positive slope of the supply curve of loanable funds.

In our present economic society, equipped with a modern and flexible banking system, the sources of new loanable funds are not limited to those saved by income receivers. Within the limits set by their available reserves, banks can expand their loans and investments by creating demand deposits. The banks are actuated by motives which closely resemble those of individual saver-lenders. First, unless the rate of interest is high enough to cover

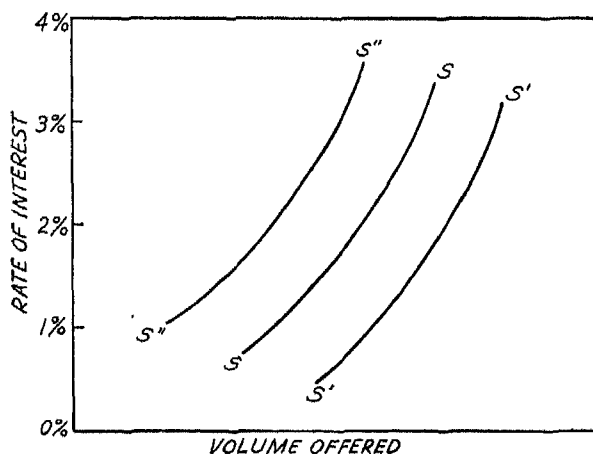


CHART 24. THE SUPPLY OF INVESTMENT FUNDS

³ This is what Keynes calls the "speculative motive" for holding cash. Cf. his *General Theory of Employment*, New York, Harcourt, Brace & Co., 1936, pp. 170-171.

the administration costs and risk, they will not expand their loans and deposits. Second, although not particularly influenced by the expectation of higher interest rates in making short-term loans, banks cannot be oblivious to the dangers of loss on bond investments that result from rising interest rates. This risk of loss on long-term investments explains why an increase in the volume of bank reserves sometimes results in very low rates of interest on short-term loans while leaving the market rate on long-term loans but little affected.

The general shape of the supply curve for loanable funds is influenced by risk factors, administrative costs, and the prospective interest rate. The location of the supply curve is determined by the supply of loanable funds made available by savers (current and past) and the banking system. Referring to Chart 24, if rising incomes lead to increased saving, the supply curve moves to the right ($S'S'$). Falling incomes, on the other hand, lead to reduced savings and cause the supply curve to move to the left ($S''S''$). A rise in bank reserves, increasing the ability of banks to expand loans and investments, helps to move the supply curve to the right, whereas a shrinkage in reserves has the opposite result. Hence, the import of gold, the purchase of bonds by the central bank, or a reduction in the central bank rediscount rate that cheapens the cost to banks of expanding reserves tends to move the supply curve of loanable funds to the right. An export of gold, the sale of securities by the central bank, or a rise in the central bank rediscount rate tends to reduce the ability and willingness to lend and hence causes the supply curve to move to the left.

The market rate of interest. Following the familiar supply and demand analysis, it appears that the market rate of interest for any given type of loan is fixed at the point of intersection of the supply and demand curves as shown in Chart 25. If the demand for loanable funds is small, owing to a worsening of business prospects, the intersection of the supply and demand curves will be at a low rate of interest. At this low rate, however, some savers may prefer to hoard their cash savings. Reduced demand for short-term loans and the danger of loss on bond investments may prevent banks from expanding their loans to counteract the hoarding of savers. Savings thus accumulate as idle hoards because of the impossibility, under the circumstances, of bringing the market rate of interest down to the level where all money

savings will be taken for investment. Attempts to lower the market rate usually take the form of enlarging the volume of bank reserves by appropriate central bank or other monetary policy. Such action may succeed in encouraging an expansion of money investment (and thus in offsetting the hoarding practiced by savers) through the encouragement of short-term investment in current capital goods by businessmen on the basis of commercial bank loans, and through the purchase of bonds by banks. But when the demand for new capital is very much reduced (for example, the equilibrium rate of interest may fall to zero in times of acute depression), it becomes impossible to force the market rate down to the equilibrium rate.

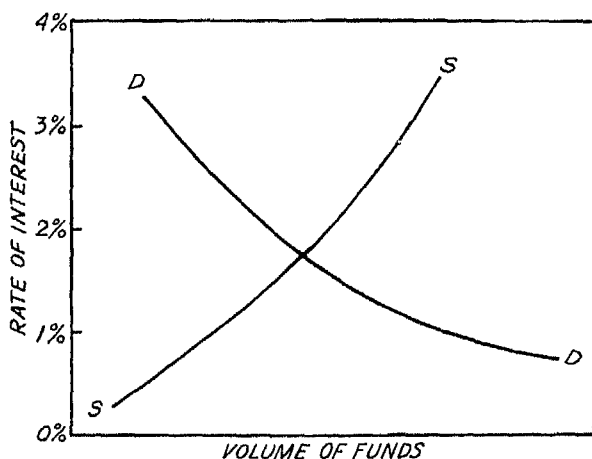


CHART 25. THE DETERMINATION OF THE MARKET RATE OF INTEREST.

On the other hand, when business prospects improve, the demand curve for loanable funds is shifted to the right. In such a case, the equilibrium rate of interest, which would balance money savings against investment in capital goods, tends to rise. Although the market rate, in such a case, may rise sufficiently to call into use all of the current money savings, it is not likely to rise to the point where such savings satisfy the demand for funds. The rising rate of interest will result in the appearance of new funds in the investment market. First, the improved market rate of interest will call out of hoarding the idle cash representing old savings which were not invested. Furthermore, if the banking system is well supplied with excess reserves, it will respond readily

to the increased demand by expanding its loans and its deposits. The willingness of banks to lend at rates below the equilibrium rate further stimulates investment both in short-term form through commercial loans and in long-term form through the expansion of bank loans to speculators and others purchasing securities.

Deviation of the market rate from the natural rate: corrections. Economic analysis of the equilibrium type proceeds on the assumption that disturbances to equilibrium set into operation automatic corrective forces. Can this same assumption be applied to a situation in which the market rate of interest has departed from the equilibrium or natural rate? Let us suppose that, because of an increased quantity of money, the market rate of interest falls below the natural or equilibrium rate, new investment increases, bank credit expands, and prices rise. To restore balance, one of two things must happen: the market rate of interest may rise, or the equilibrium rate of interest may fall.

A decline in the equilibrium rate of interest requires either an expansion in the volume of saving or a decline in the earning capacity of new capital. But neither of these changes will result directly from the lowered market rate of interest. On the contrary, saving is discouraged, and wind-fall profits, which result from the expansion in investment and credit, tend to increase rather than decrease the desire to invest. Of special importance is the effect of rising prices on profits, which overshadows, for a time at least, the tendency toward diminishing productivity of the increased supply of capital. The equilibrium rate of interest, therefore, tends to become higher instead of lower, so that an early restoration of equality between the market and equilibrium rates can hardly be expected to occur because of a fall in the equilibrium rate.⁴ Nevertheless, there will ultimately appear forces that do tend to lower the equilibrium rate of interest. First, the rate of saving will increase as incomes rise under the impact of the increased rate of investment. Second, the expanded rate of investment eventually bears fruit in the form of a con-

⁴ Cf. Wicksell, Knut, *Interest and Prices*, London, Macmillan & Co., Ltd., 1936, pp. 93-101, where he holds that any permanent fall in the market rate of interest tends to cause an unlimited and continuous rise in prices. He holds that any restoration of equality between the market and the "natural" rates of interest probably must depend mainly upon a rise in the market rate. For a like view, also see his *Lectures on Political Economy*, London, G. Routledge & Sons, 1935, Vol. II, pp. 193-195.

stantly expanding capacity to produce finished goods, which in turn weakens the advance in prices. When this fact is coupled with the growing inefficiency and waste so common during boom periods, profit margins shrink and the advantages of new investment decline.

Other adjustments tending to equalize the market and the equilibrium rates of interest appear in the form of changes in the market rate. The expansion phase, assumed to have been brought about by a market rate of interest below the equilibrium rate, leads to a gradual exhaustion of the excess reserves of the banking system. More reserves are required to support the increased volume of deposits, and some drain of reserve cash into circulation occurs. If an international gold standard is in operation, an expansion in credit and a rise in domestic prices may cause an export of gold.

During some periods of expansion, a shortage in bank reserves and a rise in the market rate of interest clearly operate to restore equality between the market and the equilibrium rates. On the other hand, some periods of prosperity are terminated more because of industrial dislocations causing a decline in profit prospects and therefore in the equilibrium rate of interest than because of tight money.

The preceding discussion has dealt with the effects of a market rate of interest that is below the equilibrium rate. Perhaps it is appropriate to call attention to the opposite effects that one may expect when the market rate is *higher* than the equilibrium rate. In such a case, saving outruns investment, and prices, incomes, and business activity decline. The worsening of profit prospects accentuates the difference between the market and the equilibrium rates so that the condition of business becomes cumulatively worse. If the market rate of interest can be reduced sharply by appropriate monetary policy, a correction may be achieved; for if the long-term market rate can be reduced below the equilibrium rate, the descending spiral of deflation will be broken. But in times of acute depression, capital may have a marginal product of zero or less. Then no recovery can be had without a rise in the equilibrium rate. But, the using up of inventory stocks may have progressed to the point where new short-term investment again becomes necessary. Prices may cease falling; old capital becomes obsolescent and worn out while new forms of greater

productivity appear; depression shrinks incomes to the point where the rate of saving is curtailed. Gradually, therefore, there emerge forces that operate to raise the equilibrium rate of interest. In the meantime, the market rate tends to decline as depression causes excess reserves to accumulate in the banking system.

The equilibrium rate and economic equilibrium. The original use of the term *natural rate* of interest implied not only that it resulted in an equality between saving and investment but also that it represented an equilibrium rate providing the best possible conditions in the economic world. So long as the market rate was maintained equal to the natural rate, prices would presumably be stable, fluctuations in business activity would be avoided, and there would exist full employment of the factors of production. Furthermore, the term *natural rate* gives the impression of fixity and stability.

As we saw in the preceding analysis, the short-run natural or equilibrium rate is highly unstable because it fluctuates with business expectations. It is high during periods of prosperity and low during depressions. It is affected by the changes in the level of incomes which accompany prosperity and depression. Therefore, such an equilibrium rate, which establishes an equality between saving and investment under any given circumstances of income and business expectations, can by no means be said to be in the basic sense an equilibrium rate around which the market rate fluctuates and to which it constantly tends to return.⁵ Moreover, the idea that an equality between the market and the natural rates of interest would not only abolish fluctuations in business but also would provide full employment is open to criticism. A rate of interest that equalizes current saving and investment merely stabilizes business activity at its existing level. If the level of activity is one of less than full employment of the factors of production, the equilibrium rate would merely perpetuate it.

But if the short-run equilibrium rate is merely one that would perpetuate the existing level of money incomes, cannot more be said for the long-run equilibrium rate? Such a rate, if

⁵ D. H. Robertson refers to the natural rate at any given time as a *quasi-equilibrium* rate. For an illuminating discussion of the relation between the market and the natural rates, see his "Industrial Fluctuation and the Natural Rate of Interest," *Economic Journal*, December, 1934, reprinted in his *Essays in Monetary Theory*, London, P. S. King & Son, Ltd., 1940.

achieved, would over a long period of time bring savings and investment into equality. In such a case, would not cyclical fluctuations then be but deviations from the normal trend of full employment? Mr. Keynes suggests that such need not be in fact the case.⁶ For example, modern economic society when fully employed might find itself saving a larger fraction of its money income than can find outlet in capital investment at acceptable rates of interest. "Economic maturity," in the form of disappearing frontiers of natural resources, and stable population may limit the investment opportunities at home while economic nationalism and war may prevent sizable outlets abroad. In such a case, the excess of money savings over investment will force down incomes, prices, output, and employment until money savings just equal money investment. Equilibrium, therefore, is achieved at a low level of employment, and chronic stagnation becomes unavoidable without government spending to bolster new investment. The long-run equilibrium rate of interest that promises to promote full employment, therefore, is one that will cause to be invested all of the money savings that appear under conditions of *full* employment. The avoidance of "secular stagnation" in modern society, dependent solely upon private investment, requires a long-run market rate of interest equal to this long-run equilibrium rate.

THE RELATION OF THE DISCOUNT RATE TO THE PRICE LEVEL

In the preceding section we examined the relation between the general pattern of market rates of interest and the price level. Whenever the general market rate differs from the equilibrium rate, changes occur in the level of investment, business activity, and prices. But it is insufficient to establish an explanation of business and price changes in terms of the general market interest rate. Monetary changes have a direct influence mainly upon the rate of interest charged by banks. This means that it must be largely through changes in the short-term interest rate that central bank policy and changes in the quantity of standard money can influence the level of business activity and prices.

The necessity for a satisfactory explanation of the effect of the short-term loan rate, or discount rate, upon business activity may be clearly seen in connection with two common monetary prob-

⁶ Cf. his *General Theory of Employment*, pp. 307-309.

lems. For instance, to explain the operation of the international gold standard, it is helpful to show that gold movements put in motion forces that shortly lead to such adjustments and corrections in the balance of payments as to check the flow of gold. If gold moves into a country because of a favorable balance of payments, prices and business activity must expand enough to increase imports and check the inflow of gold. But the direct effect of spending the proceeds of such gold imports may be small. Only when there is an expansion of bank credit upon this new gold will the full effect upon prices be felt. Without some stimulating effect from a fall in the discount rate, this expansion of bank credit will not occur. Another example of the need for demonstrating a connection between the discount rate and the price level is found in attempts to stabilize business and prices through monetary and banking policy. Such policy operates by affecting the size of bank reserves, and this in turn influences the short-term loan rate of the banks.

Methods of approach. Two methods of approach may be used to attack the problem of the relation of the discount rate to business activity and prices. First, one may seek to discover reasons for believing that changes in the short-term interest rates will encourage or discourage investment. Bank loans of the traditional, self-liquidating type are made to enable borrowers to expand their stocks of liquid capital goods. Therefore, changes in the discount rate may influence the volume of investment in such short-term capital. Second, the effect of the discount rate on investment and business activity may be traced through its influence on long-term interest rates.

The effect of changes in the discount rate on marginal business undertakings. Perhaps the explanation most commonly advanced is simply that changes in the discount rate change the willingness of businessmen to borrow funds for business purposes. A higher rate diminishes the advantages of borrowing, and a lower rate makes borrowing more profitable. Because many business undertakings are marginal in nature, a change in rate will tip the balance in one direction or the other. The limitation of this form of explanation lies in the failure to designate which part of the economic structure responds to changes in the discount rate.

The influence of the discount rate on speculation. An attempt at greater realism takes the form of relating changes of the dis-

count rate to speculation. A decrease in the discount rate encourages speculative borrowing and an increased rate discourages it. The sequence following an increase in the quantity of standard money might be said to be: (1) the decline in the rate on short-term loans, particularly in the central money markets; (2) a stimulation of the speculative markets; (3) the rise in prices of securities and the appearance of new issues; and (4) the rise in consumers' incomes as a result of an expansion in investment.⁷ Coupled with this may be an increase in commercial borrowing, if the temper of business is favorable to expansion. Moreover, unless absorbed readily by an expansion in speculative and commercial loans, excess reserves may induce the banks to purchase securities and thus increase their price. This development encourages new security issues and the expansion of investment.

On the other hand, a reduction in the size of bank reserves tends to cause a rise in the discount rates for speculative and commercial borrowing and thus reduces the profitableness of such borrowing. Moreover, the banks will exercise greater caution than before, refusing outright to make new loans involving greater risks and pressing some borrowers for repayment. In this manner, changes in the lending standards of the banks supplement the effects of changes in the discount rate.

Does a rise in the discount rate restrain speculative and commercial borrowing? One may criticize the view that changes in the discount rate will influence sufficiently the volume of speculative and commercial borrowing to induce marked changes in business activity and the price level. For example, it is improbable that a reduction in short-term interest rates from, let us say, 5 per cent to 4 per cent would be of any great significance in determining whether or not the scale of operations of a business enterprise should be expanded. The interest on short-term loans can hardly constitute a very large part of the total production costs of the average industrial firm. If one assumes that the ratio of fixed to current capital of a firm is one to one, and that one-half of the current capital represents bank loans (a liberal estimate), only one-fourth of the total capital is exposed to the change in the discount rate. A decline in the rate from 5 per cent to 4 per cent

⁷ Cf. Edie, Lionel D., *Money, Bank Credit, and Prices*, New York, Harper & Bros., 1928, pp. 203-204. Also see Marshall, Alfred, "Evidence Before the Gold and Silver Commission," *Official Papers*, London, Macmillan & Co., Ltd., pp. 48-49.

reduces the cost of obtaining current capital by one-tenth and the average cost of the total capital by only one-twentieth. If this change in capital costs be averaged in with other operating costs, the net effect upon the manager's decision as to the desirability of expansion seems unlikely to be decisive.⁸ A similar question may be raised in respect to the assumption that a change in the rate of interest charged on stock market loans will lead to any marked expansion or contraction of such loans. A bullish market will respond favorably to a lower rate but is unlikely to feel much restraint from a modèst increase. On the other hand, a bearish market will receive little stimulation from a lowered interest rate.

Of greater importance than changes in the discount rate may be the difference in treatment of the "fringe of unsatisfied borrowers," to use Keynes' expression. When reserves are plentiful, such borrowers receive more favorable attention as bankers adopt a more lenient attitude. When reserves are scarce, the "unsatisfied borrowers" become more numerous as bankers tighten their credit requirements. A considerable variation in the volume of bank credit may occur, therefore, regardless of the response of businessmen to the discount rate.

Hawtrey's explanation of the operation of the discount rate. Hawtrey seeks to explain the effect of changes of the discount rate upon business activity and the price level by concentrating attention on the segment of the business community that he believes to be most exposed to changes in the cost of short-term borrowing. He concedes that manufacturers in general are relatively insensitive to changes in the discount rate. But this insensitivity does not extend to the wholesale dealer. In comparison with the value of the inventory of merchandise that he carries, the wholesaler's profit margin is small. Moreover, these stocks of goods are largely carried with borrowed funds. Because of the smallness of his profits in comparison with the volume of borrowed funds required to carry his inventory, the wholesaler's costs are vitally affected by changes in the short-term loan rate.

The wholesaler requires a substantial inventory for convenience in meeting customers' requirements, but the size of this inven-

⁸ Cf. Ebersole, J. F., "The Influence of Interest Rates upon Entrepreneurial Decisions," summarized in the *American Economic Review*, March 1938, Supplement, pp. 74-75. Also see Lutz, F. A., "The Interest Rate and Investment in a Dynamic Economy," *American Economic Review*, December 1945.

tory is not rigid, and it may be varied somewhat with changes in the cost of carrying it. Some inconvenience may seem preferable to incurring higher costs. An increase in the short-term interest rate will reduce the profitability of carrying existing stocks and cause the middleman to postpone or reduce the scale of his purchases. A reduction in new orders by the middleman has an immediate effect upon the manufacturer's scale of output and his need for bank credit. The wholesaler, or middleman, can, without serious inconvenience, permit a considerable shrinkage in the size of his stocks. Hawtrey believes that a sharp increase in the discount rate may even overcome the effect of prospective profits growing out of rising prices. To profit from rising prices, merchants must hold goods longer than normal and are thus exposed to a certain increase in costs in order to obtain an uncertain, speculative gain.⁹ Hawtrey likewise believes that security dealers, buying and selling on a narrow and uncertain margin, are especially exposed in changes in short-term money rates.

To summarize Hawtrey's view, changes in the volume of money affect the size of bank reserves, which in turn causes changes in short-term interest rates. Wholesalers and other middlemen change the volume of their investment in merchandise in response to changes in the short-term interest rates. Changes in the volume of current purchases of merchandise by middlemen cause changes in the volume of output of industrial firms. The result is a change in consumers' incomes and outlay and in the price level. Hawtrey by no means denies that changes in the long-term interest rate influence the volume of long-term investment, and through it, incomes and prices. But he is interested in showing how changes in the discount rate can affect the volume of business activity in a relatively short space of time.¹⁰

⁹ Hawtrey's line of reasoning need not necessarily be limited to wholesale dealers and middlemen, but is applicable to any person who holds goods. Cf. Sayers, R. S., *Modern Banking*, London, Oxford University Press, 1938, p. 148.

¹⁰ For a statement of Hawtrey's position, see his *Currency and Credit*, New York, Longmans, Green & Co., 1928, 3rd ed., pp. 24-27, and his *Good and Bad Trade*, London, Constable & Co., Ltd., 1913, pp. 61-63. To support his contention that middlemen are especially exposed to changes in interest rates, Hawtrey cites data given in Professor M. T. Copeland's *Principles of Merchandising*, New York, A. W. Shaw Co., 1924. In the wholesale grocery trade, gross profits on sales amounted to between 11 and 12 per cent, net profit varied between 4 and 6 per cent, and interest paid amounted to between 1.5 to 1.7 per cent of sales. In the wholesale drug business, gross profits were 17 per cent of sales, net profits were between 0.7 and 1.1 per cent, and interest paid was between 1.9 and 2.4 per cent. In wholesale dry

Keynes' explanation of the effect of the discount rate. Keynes' explanation of the effect of the discount rate on the price level is somewhat different from those which we have been examining. First, he held that changes in the rate of interest charged by the banks on short-term loans induce corresponding though somewhat smaller changes in the long-term interest rate. Second, changes in the long-term interest rate mean a change in the rate of interest at which the income from durable goods and securities will be capitalized. Thus, an increase in the discount rate will cause a rise in long-term interest rates, which in turn causes a fall in the capitalized value of income-producing property.

The demand price of capital goods depends upon (1) the anticipated net yield; and (2) the rate of interest at which this anticipated yield is capitalized. An increase in the discount rate of 1 per cent should cause a rise in the long-term interest rate by at least one-eighth of one per cent. This in turn should cause an average fall of $2\frac{1}{2}$ per cent in the price of new fixed capital goods. Because of the ease of postponing the purchase of capital goods, a modest decline in their value must discourage their purchase and production. Particularly, Keynes held, will sudden shifts in the long-term rate of interest vary the ability of underwriters and borrowers to sell securities whenever such changes are expected to be temporary. Only when the rise in the market rate of interest is counterbalanced by an equal rise in anticipated earnings from capital (which might occur if prices are rising) would the higher interest rates fail to cause a fall in the price of new fixed capital.¹¹

Keynes' view, therefore, is that a change in the discount rate is reflected in the change in long-term interest rates. This in turn (1) affects the price level of capital goods; and (2) changes the rate of new investment. A rise in the rate of interest discourages investment; savings become greater than investment; and consumers' incomes, employment, and prices of consumers' goods fall. A decline in the rate of interest causes just the opposite results.

goods, gross profits were 17 per cent of sales, net profits were 1 per cent, and interest paid was 2.8 per cent. In wholesale automotive equipment, gross profits were 24.9 per cent of sales, net profits were 1.5 per cent, and interest paid was 2 per cent. Therefore, he argues, any change in short-term interest rates will easily influence the size of net profits. *Art of Central Banking*, New York, Longmans, Green & Co., 1932, pp. 367-371. For a criticism of this view, see Lutz, *op. cit.*

¹¹ Keynes, J. M., *Treatise*, Vol. I, pp. 200-209.

Keynes believed that the main response to a change in the long-term or bond rate of interest will occur in the building, transport, and public utility industries rather than in manufacturing. The effects are accentuated, moreover, by the reaction of underwriters who accept new issues freely if security prices are rising (the bond rate falling) and refuse new issues, even though borrowers may be willing to pay higher interest rates, if security prices are falling.¹² Only when the long-term or bond rate of interest rises above or falls below the "natural" rate, of course, will it cause changes in the rate of investment and in the price level. He did not claim, however, that changes in the bank rate can cause any instantaneous adjustment in investment and the price level.

Keynes agreed that changes in the short-term interest rates may influence somewhat the volume of investment in working capital and liquid merchandise stocks. Unlike Hawtrey, he did not believe that the volume of investment in working capital *directly* responds to changes in the discount rates. Instead, he believed that because short-term interest rates influence long-term rates, changes in short-term rates arouse expectations of price changes and thereby induce changes in investment in short-term capital. Furthermore, he held that bankers relax their credit requirements in times of easy money and lend to borrowers whose loan applications would be rejected if interest rates were high and money scarce.

The validity of Keynes' explanation rests upon the assumption that changes in the short-term interest rate are accompanied by changes in the same direction, though not necessarily of the same magnitude, in long-term interest rates. It is necessary, therefore, to examine the correctness of this assumption.

The connection between short- and long-term interest rates. It is reasonable to suppose that there is some connection between short-term and long-term interest rates, since to some extent both borrowers and lenders may switch from one type of loan to the other. For example, if short-term interest rates fall, there will be a tendency for (1) some individuals to borrow at short term and lend long (by the purchase of securities) and for others to (2) postpone new long-term borrowing by the substitution of temporary short-term borrowing. Furthermore, banks, insurance com-

¹² *Treatise*, Vol II, pp. 364 and 368-369.

panies, and other lenders may tend to change the proportion of their short- to long-term loans by increasing the relative volume of their bond holdings. The result of these various changes must cause some fall in the long-term or bond rate of interest. Conversely, if short-term rates rise, greater pressure will be felt on borrowing at long term, and the profitability of borrowing short and lending long will be lessened. The result will be some increase in long-term rates.¹³

The similarity of movement of long- and short-term interest rates. The similarity, both in time and direction, between the movements of short- and long-term interest rates is well known. Keynes cited Riefler's findings that all important changes in short-term interest rates between 1919 and 1928 were reflected in changes in bond yields.¹⁴ Keynes believed that only rarely can there be a shift in short-term interest rates without some corresponding movement in bond yields. It is not necessary or even probable that changes in bond yields will be of the same magnitude as changes in the short-term interest rates. In fact, he found that a change of short-term rates of 1 per cent is commonly accompanied by an approximate change of one-quarter of 1 per cent in long-term rates.¹⁵

A comparison of Hawtrey's and Keynes' positions. Hawtrey holds that changes in short-term interest rates directly influence the volume of short-term investment in merchandise stocks by wholesalers and other middlemen. In this way he finds a direct and almost immediate connection between the discount rate and

¹³ Cf. Reifler, W. W., *Money Rates and Money Markets in the United States*, New York, Harper & Bros., 1930, Chapter VI. Also see Hawtrey, R. G., *The Art of Central Banking*, pp. 379-384, and Keynes, *Treatise*, Vol. II, Chapter 37.

¹⁴ Reifler, *op. cit.*, pp. 117 and 123. Hawtrey is unimpressed by Keynes' statistical evidence showing an interrelation between short- and long-term interest rates. See his *Art of Central Banking*, p. 378, and his *A Century of Bank Rate*, London, Longmans, Green & Co., Ltd., 1938, pp. 158, 168, and 185.

¹⁵ A later study of the relation between short- and long-term interest rates can be found in F. R. Macaulay's *Movements of Interest Rates, Bond Yields, and Stock Prices in the United States Since 1856*, New York, National Bureau of Economic Research, 1938, Appendix A. He estimated the time lags in four series comprised of call money rates, commercial paper rates, American railroad bond yields, and American railroad stock prices. He found that the high point in call money rates preceded the high point in commercial paper rates by two months, the high point in the yield on railroad bonds by four months, and the low point in stocks by five months. On the other hand, the low point in call money rates preceded the low in commercial paper rates by two months, the low in bond yields by six months, and the high in railroad stock prices by nine months. Pp. 219-221.

the forces affecting the price level. In Keynes' view, the influence of the discount rate is roundabout and the consequences more remote. As an instrument of credit policy, the discount rate therefore holds more promise under Hawtrey's view than under Keynes'. According to Hawtrey, the response of middlemen to changes in discount rates is rapid, and time is the very essence of credit control. Once an expansion or contraction in consumers' income and outlay develops, it is cumulative. To be successful, therefore, credit control must operate promptly to break the vicious circle and start the movement of investment and prices in the desired direction.¹⁶

CRITICISMS OF THE INTEREST RATE AS AN ECONOMIC REGULATOR

The interest rate, impersonally applied, has many obvious merits as a regulator of economic activity. A particular advantage lies in its freedom from the more objectionable, discriminatory features of the so-called *selective controls* designed to restrict or stimulate particular spheres of economic activity. Nevertheless there is sharp criticism of the rate of interest as an economic regulator. The criticisms fall under three main heads:

1. Changes in the rate of interest are too slow and roundabout in their effect on the rate of investment.
2. The rate of interest has, in practice, little or no influence over the rate of investment.
3. Changes in the rate of interest, even though effective, are inappropriate means of economic control.

The first two types of criticism stem from the belief that the rates of interest charged by commercial banks can hardly be changed enough to cause a substantial modification in borrowing. Put in another way, it is held that the aggregate demand for bank loans is unresponsive to changes in the interest rate. We have already indicated some reasons to support this view. Investment, it is argued, responds mainly to changes in profit prospects rather than to changes in the rate of interest. Especially is this true when capital goods are short-lived and where capital costs are not large in comparison to total costs of production.

Slow and moderate consequences of changes in the interest rate. Those who hold the view that interest rate changes affect business

¹⁶ *Art of Central Banking*, pp. 383-384.

activity but moderately and belatedly do not deny that the rate of interest can and does set an approximate limit to desirable investment under any given level of profit prospects. Marginal profit expectations from investment must exceed interest cost whether funds are to be borrowed or arise out of savings of the business firm itself. But changes in marginal profit expectations arising from income and price level changes may be much more potent determinants of the rate of investment than are changes in the rate of interest within practicable limits. Holders of this moderate view would agree with Keynes that changes in the commercial bank rate work mainly through long-term interest rates. Long-term rate changes, in turn, work their influence mainly by modifying the capitalized value of investments in the heavy industries having relatively long-lived capital. Thus the building, transport, and public utility industries would be the ones most sensitive to changes in the rate of interest. The important question is the extent to which changes in investments of these limited types will influence the level of general business activity.

The rate of investment not affected by the interest rate. The more extreme view that interest rate changes can have no influence on the rate of investment derives from the belief that businessmen compare the costs of expansion with the profit expectations on an *average* rather than upon a *marginal* basis. In such a case, so long as average returns promise to exceed average total costs by an acceptable margin, expansion and investment will take place. When average costs are used as a basis of policy the added interest cost ascribable to additional investment has little significance. This view finds support in the well-known absence of business information about marginal costs and the resulting tendency to resort to some form of average costs as a basis for entrepreneurial decisions.

Availability of bank credit and the rate of interest. Even though one accepts the view that changes in the rate of interest have little direct influence on the investment decisions of businessmen, there still are reasons to believe that control over the availability of bank reserves can play an important part in regulating the flow of investment. For example, a scarcity of bank reserves not only tends to cause banks to charge higher rates of interest but also tends to cause them to restrict the volume of their lending activities. Banks do not rely on high interest rates alone to

reduce borrowing when reserves are scarce. At such times they pick and choose among the potential borrowers and accommodate those of the best standing. A tight reserve position reduces the willingness of banks to lend with a resulting increase in the "fringe of unsatisfied borrowers." In other words the banks ration their limited lending power and the rise in interest rates is quite as much an accompaniment as a cause of credit restraint. On the other hand, when banks have adequate reserves not only do they lower interest rates but also they adopt a more lenient loan policy. Clearly this leaves a powerful weapon of control in the hands of the central bank regardless of the response of business borrowers to changes in the rate of interest.

A similar point may be raised concerning the opportunities to obtain longer-term funds through the security market. A rise in short-term rates tends to make investment bankers less willing to undertake new security underwriting, not only because it increases the cost of carrying the inventory of unsold securities but, more important, because of the danger of a fall in security prices. Thus the short-term interest rate changes cause changes in the opportunity to obtain funds from the long-term capital market.

Inappropriateness of the interest rate as an instrument of control. Professor Hansen has taken the position that even though high interest rates might restrain credit expansion and business activity, their influence is through the wrong channels. For example, to check a boom, correction is needed in speculative movements in securities and inventories. But speculation is little affected by higher interest rates. Instead, high interest rates strike hardest at ordinary basic business operations. There is the danger, therefore, that the use of high interest rates and tight money to check a boom may place such heavy burdens upon business operations that a severe depression may follow the heading off of the boom. For this reason he prefers controls of the selective sort that can be directed against the particular area where speculative movements are developing. Thus he believes that margin requirements on stock market loans, restrictions on inventory accumulations for speculative purposes, and control over consumer credit provide superior methods of imposing restraint.¹⁷ He is

¹⁷ Hansen, Alvin H., *Economic Policy and Full Employment*, McGraw-Hill Book Co., 1947, Chapter XII.

joined in his preference for selective controls by those who hold to the view that interest rates are entirely ineffectual in regulating economic activity.¹⁸

It is easy to understand Hansen's concern that a tight money policy may be overdone and precipitate a collapse of business instead of bringing about the desired stability. One cannot doubt that speculators are often insensitive to any possible effect of higher interest rates on their borrowings, and bankers can hardly be expected to discriminate against speculator borrowers with good credit standing even though money is tight. But it is hard to conceive of any type of control, selective or otherwise, whose use will not carry the threat of business reversal, for our economic processes, as everyone knows, tend to move up or down, to expand or contract, rather than to become stable at any given level. Consequently, unless one is resigned to continuous expansion and inflation, and is willing to take the chance, obviously slim, that a collapse will not follow sooner or later, the responsibility and risk of some decline in business activity as a result of restrictive action must always be faced. This emphasizes the importance of careful, but timely and positive action in the exercise of credit policy. It also points up the great need for the availability of supplementary aid to credit policy in the form of well-managed fiscal policy. It does not, however, establish the case that selective controls are benign and quantitative credit controls are bad. In fact, a strong case remains for quantitative controls (changes in the availability of credit and the interest rate) as the hard core of central bank credit policy. Contrary to a frequent assumption, even speculative activities, in the stock market or in commodities and inventories, are not necessarily completely unresponsive to changes in the interest rate. To be sure, no one is foolish enough to believe that the rate of interest charged on loans to speculators can be raised enough to overcome the profits anticipated from a substantial rise in security or commodity prices. But, rational speculators, watching trends in prices and business activity, must take note of a tightening of the money market. For, granted that tight money will necessarily check the *general* advance of business activity, speculative prospects will fall with a rise in interest rates.

¹⁸ Cf. Wallich, Henry C., "The Changing Significance of the Interest Rate," *American Economic Review*, December 1946.

The responsiveness of inventory accumulations to business prospects was eloquently indicated during the first half of 1949.

In the areas where tight money is not likely to influence the expansion of credit, selective controls have an important place. Thus the stock market, affected as it is by the judgment of many nonprofessional speculators, seems especially well suited for the application of selective controls such as margin requirements. Similarly, the decisions of consumer credit borrowers appear pretty well insulated from the effects of changes in interest rates. Consequently a case for selective controls over consumer credit seems reasonably strong. But any attempt to substitute selective controls for over-all restraint through changes in the price and availability of credit would certainly tend greatly to increase the area of bureaucratic control over private business decisions. In contrast, the use of quantitative controls, or the "shot-gun" method, as critics would say, has the merit of being impersonal and non-discriminatory in nature. As such, it can be exercised and defended on the grounds of public interest against political pressure groups.

Questions for Study

1. Why is credit policy inevitably concerned with the rate of interest?
2. What is the meaning of the short-run equilibrium rate of interest?
3. Examine Chart 23. Why does the demand curve for loan funds slope downward and to the right?
4. What effect would each of the following have upon the location of the demand curve for loan funds:
 - a) A rise in the general price level?
 - b) The appearance of a popular, costly, and durable consumers' good?
 - c) A decline in profit expectations?
5. Examine Chart 24. Suppose current savings are \$1 billion. Why will the supply curve representing those savings slope up and to the right? Why will a curve representing the supply of loan funds provided by banks have a similar slope?
6. Suppose savings of \$1 billion will not be taken by borrowers unless the interest rate is 3 per cent.
 - a) What is the equilibrium rate of interest?
 - b) Why might the market rate settle at 4 per cent?
 - c) In such a case what consequences might be expected?

7. How will an increase in bank reserves tend to affect the location of the supply curve for loan funds?
8. Do you see: a) how a shift in the demand curve to the right will raise the equilibrium rate of interest? b) how a shift of the supply curve to the right through the expansion of bank reserves may result in a fall in the market rate of interest below the equilibrium rate?
9. Do you understand why the market rate and the equilibrium rate of interest may be slow in coming together when once separated?
10. Do you see why the *long-run* equilibrium rate of interest, that equalizes long-run saving and investment, may become very low with full employment? What danger to employment may arise from this fact?
11. Contrast the Hawtrey and Keynes explanations of the connection between the cost of bank credit and the rate of business activity.
12. What are three main objections to reliance upon interest rate policy as a regulator of economic activity?
13. Is there an effective answer to those who claim that interest costs are inconsequential to business and hence are ineffective as devices of control?
14. What are selective controls? Where is their use most desirable?

The Value of Gold Money

SO FAR IN OUR DISCUSSION OF THE CAUSES DETERMINING THE VALUE of money, our analysis has dealt with the supply of and the demand for pure money without reference to whether or not it has any commodity value. In other words, we have concentrated our attention upon the purely monetary forces that operate upon the value of money. Our analysis, therefore, is quite as applicable to fiat or inconvertible paper money as to money having commodity value. Because of the historical importance of gold in the world's monetary systems, it is desirable that we examine the forces that determine the value of gold money. Fundamentally, the value of gold within the monetary system is determined by the already familiar factors determining the value of any money. Nevertheless, there operates upon the value of gold money another set of forces that do not enter into the determination of the value of inconvertible paper money, namely, the cost of production of gold and its nonmonetary demand.

The equality of the money value and bullion value of gold. The value of gold money must equal the value of the bullion that composes it. This restriction necessarily arises from the privilege, which exists under the gold standard, of freely converting gold bullion into money and money into bullion. It makes no real difference whether the actual coinage of gold is permitted, or whether paper money representatives are issued against gold held in bullion form. There is, of course, a small cost involved in converting gold from one form to the other, either in the cost of waiting or as direct charges sometimes made by the government. Owing to these costs, a slight discrepancy between the values of gold money and gold bullion may exist, but the differ-

ence is normally too small to be significant.¹ Because of this interrelation between the monetary and the bullion forms of gold, it is necessary that we examine the forces operating to determine the value of gold in both uses.

The relation between the cost of gold and its value. Like other products of the extractive industries, gold is produced under conditions of increasing cost. This means that, under any given conditions, an increase in the output will raise the costs of production.

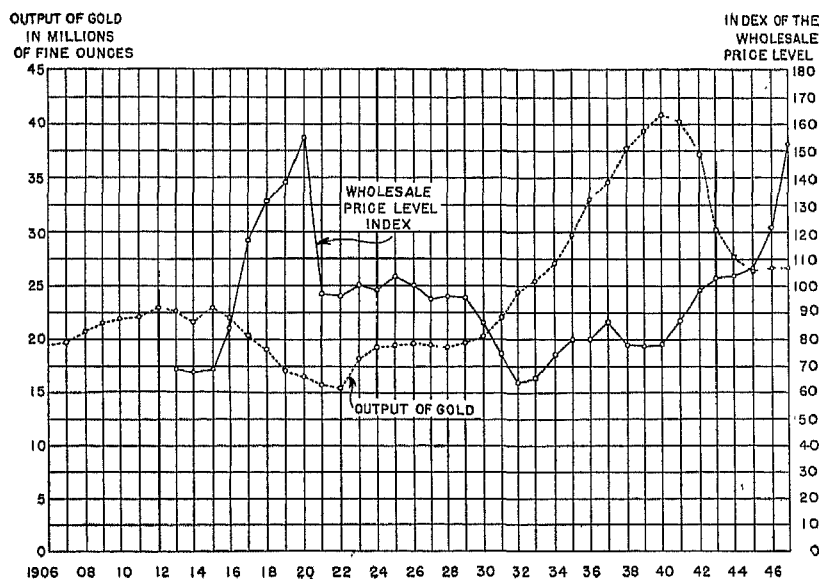


CHART 26. ANNUAL WORLD OUTPUT OF GOLD AND THE CHANGES IN THE INDEX OF THE WHOLESALE PRICE LEVEL IN THE UNITED STATES.

Before examining the relation between the value of gold and its cost of production, we should note two characteristics of the supply of gold that tend to modify that relationship. The first is the speculative nature of gold mining, which has attracted many prospectors and producers who have operated at a loss in the hope of some day striking it rich. The second is the durability of

¹ The shift of gold from one form to the other generally appears as a diversion of a greater or less part of the current gold output into one use or the other. Seldom is there much actual shifting of old gold stocks from one category to the other. However, after 1931, a very considerable volume of gold was dishoarded by India and found its way into the world's monetary systems.

gold, causing the supply to represent the accumulated production of many years. The supply of gold available at any one time is, therefore, but remotely related to the current rate of gold output. But, as in the case of other commodities produced under conditions of increasing cost, there is necessarily a tendency toward equality between the value of gold and its marginal cost, which asserts itself even in relatively short periods. For example, when the price level rises, the cost of producing gold measured in current prices rises also. Since under the gold standard the statutory price of gold is fixed (\$35 per fine ounce in the United States), the rising marginal dollar costs of gold production will meet the statutory price of gold at a lower output than before. A falling price level, on the other hand, brings with it declining marginal costs of producing gold and permits a larger output before the marginal costs meet the statutory price. Therefore, at any given price level, the output of gold is adjusted to the point where marginal costs of its production equal its value.

A fall in the costs of gold mining due to new discoveries or improved production methods will tend to establish a new long-run equilibrium that will reflect the new cost conditions. The immediate effect will simply be an expansion in current output. Because the value of gold will be but little affected at first by the increased output, the reduced cost of mining will not cause any appreciable reduction in the value of gold. But the increased output will gradually modify the total supply, and, unless offset by growing demand, the value of gold must fall. The new point of long-run equilibrium will tend to be reached when the current gold output is just absorbed by the demand for this output.

It should be apparent, therefore, that the fundamental supply factor, the cost of production of gold, is very slow in establishing anything resembling a long-run equilibrium in the value of gold. Explanations of the value of money based upon the cost of production of gold are, therefore, of little short-run use, for only over long periods of time do production costs make themselves felt.

The supply of gold for monetary uses. Unlike other commodities, gold is demanded both for its want-satisfying capacity as a commodity and for its purchasing power as money. It follows that the value of gold is affected by both uses. The non-monetary demand for gold is of two types: that arising from use in industry and the arts, and that arising from hoarding. The

first use requires no particular explanation save to note that the industrial demand for gold tends to be elastic—that is, the amount used responds readily to changes in the relative value of gold—and that it is subject to absolute changes with variations in style, business conditions, and economic well-being.²

Demands for hoarding arise primarily in the Orient, with India, that great sinkhole of precious metals, taking the bulk of the hoarded gold. Once it is hoarded, gold is seldom brought to light again into the monetary systems of the world. The inflow of gold into Oriental hoards does not raise prices and automatically shut itself off, for the gold does not become a part of the money system of the importing country. Nevertheless, the depreciation of the British pound in terms of gold after it became inconvertible in September, 1931, did result in a very substantial volume of dishoarding by India.

Since both the monetary and the nonmonetary demands for gold operate on a common supply of newly mined gold, any relative increase in the demand for one use tends to divert a larger part of the new supply into that use. In a very real sense, therefore, the new gold that becomes available for monetary uses is dependent on the pressure exerted by the nonmonetary uses of gold, and it expands and contracts as the nonmonetary demand declines and increases. This is the reason for the interest in the nonmonetary demand for gold exhibited by students of the problem of long-run price stability in the days of the international gold standard.

A relative increase in the monetary demand for gold, leading to falling commodity prices and a rising value of monetary gold, acts to divert a larger part of the newly mined gold into monetary channels. To the extent that the nonmonetary demand is elastic, the diversion from nonmonetary to monetary uses may be quite substantial. This elasticity adds to the relative stability of the monetary value of gold in the face of fluctuations in monetary demand.

The monetary demand for gold. Let us first assume that all money is specie or paper money representatives of specie, and

² See Edie, Lionel D., *Money, Bank Credit, and Prices*, New York, Harper & Bros., 1928, Chapter XIII, for a careful analysis of the nonmonetary demand for gold. Also see the *Interim Report*, 1930, of the Gold Delegation of the Financial Committee, League of Nations.

that there is no credit money. Under these simple conditions, it is easily seen that the demand for money impinges directly upon the supply of monetary gold and fixes its value. But this is an unreal simplification of the question. Under the gold standard in actual practice, monetary gold is lodged in the reserves of the banking system, and the media of exchange that actually feel the impact of monetary demand consist of bank checking accounts and bank notes.

The effect of monetary demand on the value of gold when credit money comprises the media of exchange: fixed reserve ratios. To explain the manner in which monetary demand affects the value of gold when currency in use is made up of paper money and bank credit, let us assume that a fixed ratio is constantly maintained between the volume of paper money and bank credit and the volume of gold itself. This ratio, determined by custom or law, is, of course, the reserve ratio of the banking system. Now let us suppose that the demand for money increases. With no change in the supply of credit money, the result must be a rise in the value of such money or a fall in the level of prices expressed in terms of it. But because credit money may be freely converted into gold and gold into credit money, any change in the value of the latter must necessarily bring about an equal change in the value of gold money. Similarly, a fall in the demand for money that lowers the value of credit money must likewise cause an equal lowering of the value of gold.

The effect of monetary demand on the value of gold when credit money comprises the media of exchange: flexible reserve ratios. The above analysis is based upon the assumption that a rigid relationship exists between the volume of monetary gold and the volume of credit money. Put in another way, it assumes that the banking system is constantly "loaned up" to the limit set by the available gold reserves and the customary or legal reserve requirements. But in actual fact, this is not always true. There frequently exists in the banking system a very sizable amount of reserves in excess of minimum requirements. These excess reserves are generally held by the central bank and form the basis for its advances to the commercial banks. Because of this situation, an increase in the demand for money is normally paralleled by a corresponding increase in credit money. In this way, an increase in the demand for money will fail to cause an increase in

its value. This highly desirable result is the basis for the belief that bank credit should be "elastic" and respond to the "needs of business."

Unfortunately, this elasticity in the supply of credit money may entail a volume of money in excess of the basic economic requirements for a stable price level and a stable value of money. Businessmen's attempts to expand their available capital by resorting to borrowing at the banks sometimes result in an excessive quantity of credit money, so that the value of money falls instead of rising in the face of an increased demand. This occurs during periods of boom or price inflation.

During periods of declining industrial output and declining trade, the supply of bank credit money tends to shrink, so that the value of money does not fall in the face of a declining demand for it. Because the supply of this credit money results from the lending and investing operations of the banks, such money sometimes tends to shrink faster than does the demand for money. The results are a rising value of money and a falling price level.

To summarize, if the proportion of gold reserves to credit money is a fixed one, any change in the demand for money will immediately cause a corresponding change in the value of money, both gold and its credit substitutes. But when the proportion between the volume of gold reserves and credit money is not rigidly fixed, changes in the demand for money may be accompanied by changes in the supply of credit money. When the forces operating to change the supply of credit money cause it to vary by an amount *greater* than that necessary to meet the varying demand, the value of money may fall in the face of a rising demand or may rise in the face of a shrinking demand. This situation characterizes booms and depressions. The tendency for money to overexpand during periods of good business and to overcontract during times of bad business is what is meant by the "perverse elasticity" of credit money and is the basis of much of the criticism of the behavior of our present monetary and banking system.

THE QUANTITY THEORY VERSUS THE BULLIONIST THEORY OF THE VALUE OF MONEY

A comparison of the quantity theory with the bullionist approach. At this point it is well to recognize the existence of two rather extreme views that are sometimes held in respect to the

causes underlying and determining the value of money. One view stresses the point that money, as such, possesses a value that is not dependent upon any intrinsic worth of the substance from which it is made; that, rather, it derives its value from the fact that it is useful in making purchases and paying debts. For example, the State in establishing a certain monetary standard gives it the quality of acceptability by making it legal tender and by receiving it in payment of taxes.³ Even without formal sanction by the State, certain objects that in themselves have little if any intrinsic value sometimes acquire the social sanction of custom and thus become valuable as money. According to this view, money is acceptable because of law or custom, and the value of any particular unit of money depends upon the quantity of money available to perform the money work. This is the essence of the quantity theory of money, which in one form or another is very generally accepted by economists today.

On the other hand, there is a school of thought which takes an almost opposite view. Its adherents believe that money derives its value neither from the sanction of the State nor from its monetary uses. Instead they hold that money is simply a commodity, and that its value, like that of any other commodity, derives from its utility and its cost of production. It is different from other commodities mainly because it is unusually well supplied with the qualities that make it acceptable. This approach to the value of money is known as the *commodity theory*. Those who adhere to the particular variant of the commodity theory that has had the most influence in the United States are sometimes known as the *Bullionists*.⁴

*The bullionist theory of money.*⁵ Starting from the position that money is simply a commodity whose value is derived in the same manner as any other commodity, the bullionists hold that

³ This is sometimes known as the "chartel" theory of money. Cf. Ellis, Howard E., *German Monetary Theory*, Cambridge, Harvard University Press, 1934, pp. 21, 37-38. Money without commodity value, whether accepted because of law or custom, is known as *nominal* money.

⁴ Ellis lists three shades of opinion among the commodity theories, namely: the supply and demand theory, represented by Helfferich; the marginal utility theory, represented by Mises and Wieser; and the metallists or bullionists, of which the best-known supporter in the United States was the late J. L. Laughlin. *German Monetary Theory*, pp. 59 *et seq.*

⁵ For an excellent statement of the bullionist position, see Laughlin, J. L., *A New Exposition of Money, Credit, and Prices*, 1931, Vol. II, Chapters XXIV-XXVI.

the value of any standard monetary unit is derived from the value of that amount of the commodity contained in the unit. According to this view, a dollar, which is $15\frac{5}{21}$ grains of nine-tenths fine gold, is worth as much as the gold contained therein—no more and no less. It is the law of supply and demand operating upon gold bullion to determine its value that fixes the value of the monetary unit.⁶ Starting from this view, the bullionists proceed to the following propositions:

1. The value of all deposit currency and all paper money, whether government notes or bank notes, is derived directly from redemption in the standard money commodity.

2. Because it derives its value from the redemption in commodity money, credit money (deposits and notes) is valuable only so long as it is redeemable or has some prospect of future redemption. If ultimate redemption in bullion is no longer anticipated, it is valueless, since money in itself can have no value outside of its commodity value.⁷ As evidence of this argument, bullionists cite the depreciation of the United States greenback in terms of gold bullion during the Civil War when the premium on gold rose and fell with the defeat or victory of the Union armies.⁸ It should be noted, however, that the fluctuating price of gold did not accurately measure the changes in the value of greenbacks in terms of things other than gold.⁹

3. The value of money is not dependent upon its quantity. The bullionists admit that the value of monetary gold would be reduced by an increase in the supply of gold that lowered the value of gold bullion. The quantity of gold money itself, however, does not affect the price level. The monetary demand for gold affects its value only by absorbing part of the supply and thus enhancing its commodity value.

4. The pricing process is a comparison of the value of a unit of gold with the value of a unit of goods. Out of this comparison, the price is fixed. Money is then put to use merely to effect the exchange.

5. In no direct way can the volume of bank credit affect prices. Bank credit gets its value from the value of the bullion in which it is redeemable. After the prices are determined, bank credit

⁶ This view is partially valid under the gold standard to the extent that the value of gold bullion, under free coinage, cannot deviate from the value of gold coin by more than the cost of converting it from one form to the other.

⁷ This conception is, of course, directly opposed to the idea developed in the preceding section concerning the effect of the monetary demand for gold.

⁸ Cf. Mitchell, W. C., *History of Greenbacks*, Chicago, University of Chicago Press, 1903, pp. 187-238.

⁹ *Ibid.*, p. 245.

may be created for use as a medium of exchange. Bank credit, therefore, springs into existence after prices have been arrived at, and its volume is dependent upon the activity of business and the level of prices. The bullionist visualizes the causal relation moving from prices to bank credit. But because the banking system is able to create bank credit for use as a medium of exchange, the monetary requirements for gold are lessened, more gold is left for bullion uses, and its value is therefore less than it would be in the absence of bank credit.

6. The volume of both credit and standard money responds to price movements and business activity. When a shortage of bank reserves develops, more reserves will be forthcoming, for higher interest rates attract specie from other areas and countries.

7. Changes in the price level are largely due to changes in the cost of producing goods rather than to changes that affect gold.

An evaluation of the bullionists. The bullionists find it difficult to meet some of the attacks made upon them by the quantity theorists. Yet there is some merit in their argument that cyclical price increases arise from an increase in the value of commodities and result in bank credit expansion in sufficient amount to make the price increase possible. Certainly, at such times, the profitability of owning goods rises sharply. The bullionist view, in the short run, is at least preferable to the bald view sometimes advanced in the name of the quantity theory, that bank credit is created in proportion to the volume of bank reserves and is instrumental in forcing prices up. On short-run grounds, therefore, the bullionist view of the relation of the volume of bank credit to the price level is undoubtedly superior to the simpler forms of the quantity theory. The attacks of the bullionists upon the quantity theory have contributed something to the modification of the position of the quantity theorists in respect to short-run price movements.

The bullionists have failed, however, to establish their contention that paper money can have no value save that derived from its redemption in specie. Furthermore, they are unable to prove that the pricing process is simply one of comparing the value of commodities with the value of a unit of gold money. The latter position is especially weak in the light of experience with currency devaluation. For example, a strict application of this idea in 1933-1934, when the gold content of the dollar was being reduced by a little over 40 per cent, would have required an

immediate rise in commodity prices in terms of gold dollars by more than 60 per cent.

There is much that is valid in their position in regard to the short-run relation between the quantity of money and the level of prices, yet their position on causes of long-run price changes is weak. The rather lame explanation that the level of commodity prices is determined by the cost of production leaves entirely unanswered the question of what underlying forces determine the money cost of the factors of production. It remains for the quantity theory to throw some light upon this problem.

Questions for Study

1. Examine Chart 26. What does it reveal about the response of gold mining to changes in the value of gold?
2. Why does the value of gold respond slowly to changes in the cost of gold mining? Why does this tend to stabilize the value of gold?
3. What factors determine the quantity of gold annually added to the monetary stock?
4. Can it properly be said that the value of gold money must reflect the demand for credit and paper money? Does this help to explain why the value of gold money (the price level) sometimes fluctuates so sharply?
5. To what degree is it valid to believe that the commodity uses and value of gold determine its value as money in the United States?
6. Who were the bullionists? How do they explain the value of paper and credit money?
7. What valid attacks were made by the bullionists on the quantity theory assumption that the quantity of credit money is determined by the quantity of available reserves?

Part VII

Foreign Exchange and International Price
Relationships

Foreign Exchange

INTERNATIONAL TRADE ON A PRIVATE BASIS SUFFERS MANY INTERRUPTIONS and modifications during wars. Normal trade routes are disrupted and abnormal demands for raw materials arise, which will not survive the return to peace. Governments, seeking to purchase on the most favorable terms possible, by-pass private importers and embark on programs of state trading. The shortages and urgent requirements of war necessitate strong measures of control over the foreign exchange markets to insure that scarce foreign exchange is utilized for the maximum benefit to the war effort. Under such conditions the peacetime free-market pattern of trade and foreign exchange largely is supplanted by one dominated by government controls. At the end of hostilities one might expect a gradual return to the prewar peacetime pattern. But the disruptions of the last war were so enormous that a return to anything like a free foreign exchange market of the prewar type appears to be indefinitely delayed if, indeed, it will ever be accomplished. Consequently, the reader must bear in mind that the following discussion of foreign exchange deals primarily with the behavior of a free exchange market of the prewar type. Government participation in international trade, however, continues in the form of government trading, exchange control, and loans and grants-in-aid. These practices result both in a modification of the exchange-market operations and in a by-passing of the foreign exchange mechanism by a major fraction of the commodities that move between countries in the postwar world. Nevertheless, a careful study of the mechanism of the foreign exchange market and how it operates will provide an important groundwork for understanding the basic principles involved. We shall proceed

therefore with an analysis based on the assumption, unreal at the present, that foreign trade is mainly carried out and financed by private enterprise through private channels.

THE PROBLEM OF FINANCING FOREIGN TRADE

Financing goods in transit. Regardless of whether or not the seller of goods extends credit, he normally must arrange to finance the shipment while it is in transit. Only when the foreign buyer pays cash in advance can the seller escape this burden, and such cases are rare. When no credit is extended to the buyer, financing the shipment involves only the burden of waiting for payment until the goods arrive and remittance is received in return. If the seller is in a strong enough financial position to wait during this interval, the foreign exchange banker's function is not one of financing but merely that of a collection agency. If the exporter is not willing or able to wait the time necessary to collect the funds, he can call upon his bank for aid. This aid may take the form of a loan secured by the draft drawn on the buyer and the documents of title to goods shipped, or it may involve the purchase (or discount) of the draft itself. In either event, the bank advances the funds before the collections are actually realized from the export.

Financing exports on credit. If the exporter agrees to sell on credit, in order to give the foreign buyer time to resell the goods before payment, his problem becomes more difficult. The time he must wait for payment is prolonged. Again he may resort to his bank for aid, either by borrowing or by discounting time drafts drawn on the foreign buyer. Exporting on credit is further complicated by the necessity for knowing the credit standing of the foreign buyer.

The seller's protection. Whether the seller finances the export himself or relies upon the bank, he bears the risk, since he is legally liable as drawer of any drafts on the buyer which he discounts with his bank. Because of the difficulties involved in investigating the credit standing of foreign buyers, export credits are probably less generally extended upon open account than is the case in domestic trade. Exporters often keep control over their goods until they are paid (cash sales), or until drafts drawn on foreign buyers are accepted (credit sales). An exporter ships goods under an order bill of lading, which is a document of title,

and the buyer cannot obtain his goods until he gets possession of the bill of lading. The exporter draws a draft or bill of exchange on the buyer, ordering him to pay on sight or on a certain date. To this bill of exchange he attaches the bill of lading and forwards both through his bank to a foreign bank, which in turn presents the bill of exchange to the importer for payment or acceptance. Or, the exporter may sell the bill of exchange to his bank, which then handles the transaction for itself. Instead of drawing directly on the buyer, an exporter may demand the right to draw a bill of exchange against a well-known bank that has previously authorized the drawing by the issuing of a letter of credit and has agreed to accept the bill and pay it upon maturity.

FOREIGN BILLS OF EXCHANGE

Nature and origin of foreign bills of exchange. A foreign bill of exchange is simply a draft drawn by someone in one country on someone in a foreign country payable in the foreign country's currency. It may be payable at sight or after the expiration of a certain time. It may be drawn on an individual, a business firm, or a bank by an individual, a business firm, or a bank. Sellers of goods who by their sales contract have agreed to receive payment in the currency of the buyer's country draw foreign bills of exchange either against the buyer or against the buyer's bank under a letter of credit. Bankers in the United States draw drafts or bills of exchange against their deposits in foreign banks and sell these drafts to Americans having remittances to make abroad.

*Commercial bills of exchange.*¹ Drafts drawn by exporters (or by others to whom foreign funds are due) are known as *commercial bills of exchange*, because they arise directly out of commercial transactions. Commercial bills may be classified according to: (1) the time they are to run; (2) the security; and (3) if secured, the terms under which the documents are to be released to the buyer.

Commercial bills may be payable at sight or on time. If a bill is drawn in order to collect for services, there are no documents to attach, and the bill is therefore a clean bill. If it is drawn for

¹ Bills drawn by individuals upon other individuals are sometimes called "trade bills," with the term "commercial bills" reserved for those drawn by individuals on banks under letters of credit. Edwards, Geo. W., *International Trade Finance*, New York, Henry Holt & Co., 1924, p. 46.

the sale of goods and the documents are attached, it is known as a *documentary bill*. If the credit of the importer is good, the bill may be marked "documentary acceptance," meaning that he can get his documents entitling him to possession of the goods when he accepts the draft. Otherwise, the documents will be released only upon payment of the draft. Commercial bills drawn on banks under letters of credit are normally marked "documentary acceptance," and entitle the drawee banks to possession of the documents on acceptance of the bills.

Bankers' bills. Bills of exchange drawn by American banks on foreign banks are known as *bankers' bills*.² These bills are of several different types. Those payable on demand are either *sight drafts* or *cable transfers*. Those payable on time are divided into *short bills* and *long bills*.

Bankers' bills may be drawn against balances in foreign banks and sold to persons having obligations to pay abroad. They may also be drawn against foreign banks for the purpose of obtaining funds in the drawee bank's country. Such bills are known as *finance* or *loan* bills.

Time bills. Time bills, both commercial and bankers', are sometimes classified into *long* and *short* bills. Sight bills and bills with maturities up to ten days are called *short bills*. The term *long bills* is applied to bills with maturities of at least two months.³

Use of bills of exchange in international settlements. We may, for convenience, think of foreign bills of exchange as having their origin in the transactions of American exporters who ship goods and draw drafts (on foreign buyers) ordering payment of the required amount in foreign currency. The exporters would like to exchange these orders for American dollars. On the other hand, American importers with remittances to make desire to exchange their dollars for drafts calling for payment in foreign currencies. There are, of course, difficulties that prevent the exporter from selling his foreign bills of exchange directly to the importer. In addition to the physical difficulty of making contact, there is the question of size and maturities to consider. For-

² The term "bankers' bills" is sometimes used to include all bills drawn on bankers, whether by other banks or by individuals under letters of credit (which we have included under "commercial bills"). This usage applies particularly to the discount market.

³ Spalding, W. F., *Foreign Exchange and Foreign Bills*, London, Sir Isaac Pitman & Sons, Ltd., 1932, pp. 94, 99.

eign exchange merchants quite naturally developed as go-betweens for the buyers and sellers of foreign exchange.

The foreign exchange bank stands ready to purchase foreign bills from the exporters or other commercial drawers at the current rate of exchange. It buys both sight and time bills. These bills are collected when due through a foreign branch or foreign correspondent, which credits the proceeds to the account of the American bank. It is against these collected funds in foreign banks that the bank then draws the drafts or bankers' bills it sells to Americans wishing to remit abroad.

THE RATES OF EXCHANGE

The meaning of foreign exchange rates. The rate of exchange on a foreign country is simply the price, in one's own currency, of bills of exchange payable abroad in the foreign currency. Thus the rate of exchange on London is the price, here, in dollars, of a pound sterling draft. The price of bankers' sight drafts formerly was considered the "basic rate" of exchange, and ordinarily, published quotations were for sight drafts of this sort. Today, however, the basic rate is generally quoted as the price of a cable transfer, which is somewhat higher than that of a sight draft or bill.

Maturities of bills and the rate of exchange. The highest rate or price charged for a bill of exchange is for the cable transfer calling for immediate payment. The banker's sight draft costs somewhat less because the banker in America has a double use of the money received from the buyer during the interval elapsing from the time the draft is sent across to the time it is collected. In contrast to the sale of a cable transfer, the sale of a sight draft enables the banker to obtain interest, at the foreign rate, for the time the bill is uncollected. Time drafts or future exchange drafts bring a still lower price than the sight drafts, the difference being determined by the interest rate and the time between the date of sale and the payment of the bill.

Origin of the bill and the rate of exchange. Commercial bills, drawn by exporters, sell at a still lower price than bankers' bills of similar maturities. The highest-priced commercial bills are sight bills drawn on well-known bankers under letters of credit. The price of such bills will be less than the price of bankers' sight bills by the amount of the commission or profit which the foreign ex-

change banker requires. Bills drawn on commercial firms instead of on banks sell for still lower prices, since the element of risk is somewhat greater.

Typical differences in rates for the several types of bills in the free prewar exchange market are shown in the following list of published closing sterling rates for April 10, 1936:

Cable transfers	\$4.94 $\frac{1}{4}$
Bankers' sight drafts	4.94 $\frac{1}{8}$
Commercial sight drafts	4.94
Seven-day grain bills	4.93 $\frac{5}{8}$
Sixty-day bills	4.93
Ninety-day bills	4.92 $\frac{1}{2}$

Factors affecting the basic rates. The price of foreign bills, or the rate of exchange, depends fundamentally upon the forces of supply and demand. At any given time, the supply of commercial bills offered for sale in American foreign exchange centers depends upon the value of American exports (both visible and invisible). If the supply of such bills offered for sale is in excess of the demand for foreign bills on the part of Americans wishing to make remittances abroad, the price will fall. If the supply is relatively small, the price will rise. Thus, a favorable balance of indebtedness depresses the foreign exchange rate, whereas an unfavorable balance raises it. Whether the rates are high or low, the exchange banker endeavors to buy bills more cheaply than he sells them in order to preserve his margin of profit.

Limits to exchange rate fluctuations: Gold points under the gold standard. Before the general collapse of the world gold standard in 1931, foreign exchange rates were closely tied to the *mint par* gold value of the respective currencies. Mint par relationships between currencies is determined by comparing the amount of gold into which each currency may be converted or by comparing the price of gold in the countries involved.

Before England abandoned gold in 1931, the mint par of exchange with the United States was \$4.8665 = £1. This meant that a banker owning a pound in England could, if necessary, convert it into gold and return the gold to the United States where it could be converted in turn into \$4.8665. Therefore, at a time when United States exports (in the broad sense) exceeded imports, the resulting fall in the price of pound sterling bills of exchange could not exceed the cost involved in converting such bills into gold and the shipment of that gold to the United States. The cost

of shipping (including packing, freight, insurance, loss of interest while in transit, etc.) was generally estimated at about two cents per pound. Hence bankers' bills drawn on London would not fall below \$4.8465. This price was called the gold *import* point and marked the lowest point to which the price of pound drafts could fall. Likewise, when American imports (in the broad sense) tended to exceed exports, and the price of sterling bills rose, the maximum price of such bills would not exceed mint par (\$4.8665) plus the cost (about two cents) of shipping \$4.8665 worth of gold to London for conversion into pounds. Consequently, the maximum price of pound sterling bills would not exceed \$4.8865, which was the gold *export* point.

Limits to exchange rate fluctuations: Inconvertible paper currencies. When a country's currency is not convertible into a fixed amount of gold, there is no gold export point to limit the drop in the price of bills payable in that currency. The value of bills of exchange drawn on a paper standard country is determined primarily by the buying power of that currency at home as compared with the buying power of other currencies in their respective countries. This is necessarily so because such bills cannot be converted into gold but must be utilized to buy commodities or services. If, for example, American exporters have bills of exchange drawn on English banks payable in paper pounds, they can be sold only to someone willing to purchase pounds with dollars. Fundamentally, the demand for pounds (barring speculative influences) arises from the desire to purchase British goods. But pounds are worth buying only when, at the existing rate of exchange, British goods can be purchased and returned to America to be sold at a profit. The rate of exchange that permits trade between countries to proceed in a normal fashion is sometimes called "purchasing power parity." If bills of exchange drawn on the paper standard country are too high in price to make their use profitable for obtaining goods for export from that country (including services, travel, and so forth), they must become cheaper. Normally the rate of exchange on a paper standard country must be such as to maintain a balance between its import and export items.⁴

⁴ "Import" and "export items" are used here to include both visible items (merchandise and specie) and invisible items, including shipping, insurance, security movements, interest on international indebtedness, foreign travel, and immigrant remittances.

Because paper currency exchange rates are not anchored to any gold parity, they are particularly exposed to speculative pressure. And since any breath of rumor is sufficient to start speculative movements, it is easy to see that financing of foreign trade under the circumstances becomes abnormally hazardous. To keep paper exchange rates free from speculative activities, it may be necessary for the central bank or the government to acquire sufficient foreign funds and credits to enable it to support the domestic exchange rates against bear raids of the speculators. This support is accomplished by the simple expedient of buying all domestic currency offered at what is considered a desirable rate, in exchange for bills on foreign countries. In this way exchange rates in paper standard countries may be given substantial stability.

Limits to exchange rate fluctuations: Controlled rates. During and since World War II, we have become accustomed to seeing a type of foreign exchange situation, made familiar by Germany in the 1930's, in which there are neither the gold shipping point limits nor flexible exchange rates that tend to move toward an equilibrium level. This system is known as *exchange control*. It is characterized by (1) an entire lack of convertibility of the currency into gold; (2) the absence of exchange rate adjustment to provide equilibrium in the country's balance of payments; and (3) a rigid control over the price of foreign exchange bills by government interference in the market. Specifically, a certain "official rate" of exchange is established with another country by the government exchange control agency. All exporters are required to sell their foreign bills of exchange to the control agency. All importers must purchase foreign exchange from it. If, under the circumstances, the country's balance of payments is favorable (export items exceed imports) the control agency will tend to accumulate foreign exchange abroad. This tendency, in itself, is no immediate cause of concern save for the possibility that it represents a waste of resources. But it becomes much more serious whenever, at the official rate of exchange, a country's balance of payments is unfavorable (import items exceed exports). Under these circumstances the supply of foreign exchange is inadequate to meet the demand of the importers. Since gold cannot be freely exported to meet the deficit, and a rise in foreign exchange rates is not to be allowed, the control agency is compelled to ration the limited supply of available foreign exchange according to

some estimate of the worthwhileness of the various possible imports.

ARBITRAGE AND THREE-CORNERED EXCHANGE

Arbitrage. A perplexing problem often arises in the student's mind from the fact that foreign trade between two countries may be settled in terms of the currencies of either country (or, for that matter, of a third country). Americans exporting to England frequently draw drafts payable in sterling, and these create sterling exchange in New York. American importers purchase bankers' bills drawn against the proceeds of such commercial bills. There is no assurance, however, that these will be equal, that all American exporters will draw drafts payable in pounds, or that all American importers will purchase pound sterling drafts. Indeed, it is possible to imagine a case where all exporters, regardless of which country they represent, sell only on terms permitting them to draw drafts on foreign buyers payable in the exporters' currency. Thus, American importers would be compelled to remit sterling drafts to pay for their imports, while English importers (to use the familiar New York-London illustration) would demand dollar drafts. Yet the English banks would receive no dollar commercial drafts with which to build up their dollar balances, and American banks would receive no sterling commercial drafts with which to establish sterling balances. We might then be faced with the ridiculous situation where banks in each country would be shipping gold abroad to establish balances against which to draw drafts.

It is here that the arbitrage operations of the foreign exchange dealers come into play. Let us suppose that, because of the unwillingness of both English and American exporters to take payment in anything but their own currencies, foreign rates of exchange in both New York and London are high. If sterling drafts sell in New York for \$2.81, and dollar drafts sell in London at the rate of \$2.79 per pound sterling, there is a great opportunity for profit through arbitrage transactions. A New York dealer, in communication with his London correspondent, orders the London correspondent to sell cable transfers payable in dollars at \$2.79 per pound and to credit the pound sterling to his account. The New York dealer is thus able to obtain a pound sterling in London by paying out \$2.79 in New York. He then sells pound

sterling cables in New York at \$2.81 against his sterling account and realizes \$.02 per pound, minus incidental costs, on each transaction. This arbitrage operation will continue until the New York price of sterling exchange is so near the London price of dollar exchange that no profit remains. Thus, regardless of the terms of settlement that foreign traders may use, the rate of exchange is substantially the same in either country.

Three-cornered exchange. To introduce a more realistic note into the foreign exchange discussion, it is necessary to consider the fact that international trade is not a simple two-sided matter between two countries but involves a multitude of transactions of different kinds among many countries. It is highly unlikely that the exchange of visible and invisible items between any pair of countries will be exactly equal. The United States may have an export excess to England, for example. England, however, may have export excesses to South American countries, while these countries in turn may have export excesses to the United States. Under these circumstances sterling bills will be cheap in New York, South American drafts will be cheap in London, while dollar drafts will be cheap in South America. In such a case the New York foreign exchange dealer would purchase cheap sterling drafts, utilize the proceeds to purchase cheap South American drafts in London, and use the South American funds to purchase cheap dollars. This procedure would continue until the rates of exchange became so adjusted as to yield no arbitrage profit. The value of drafts on London would, therefore, reflect not only the net excess of our exports to England, but also our net excess of imports from South America.

If all international transactions were settled in terms of the currency of one country, the case would be simpler. Before World War I, the bulk of international trade was financed by the British banks. Exporters in the United States sold and drew drafts in terms of pound sterling. If South American countries bought from England, they agreed to pay in pound sterling. If Americans sold more to England than they bought, the excess of pound sterling exchange arising could always be used to pay for any imports from South America in excess of exports to it. Only when the United States showed a net excess in the value of exports to the whole world would the value of sterling exchange decline in New York.

SALE OF FOREIGN EXCHANGE BY INLAND BANKS

Banks located in cities where foreign exchange transactions are unimportant cannot afford to carry foreign balances. Any occasional commercial drafts drawn on foreign countries that are offered will therefore be handled through a city correspondent equipped for the task. If local customers desire to purchase foreign exchange drafts from the inland bank, the bank sells drafts drawn on a foreign correspondent of the city bank. The city bank furnishes the proper blanks and notifies the inland bank of the rate it must pay for any drafts drawn. The inland bank, in turn, charges the local customer a rate high enough to cover its costs and its profit margin. The city bank bears the risk of a rise in the rate of exchange while its stated rate to the inland bank is in force.

SEASONAL EXCHANGE RATE CHANGES

Seasonal inequalities in trade: Short-term capital movements. Seasonal and irregular influences affect international as well as domestic trade. Consequently, even though the balance of payments is in equilibrium on an annual basis, there will almost certainly be times when temporary disequilibrium arises. For, at one season imports will exceed the exports, and the reverse will be true at another. Therefore, there will be a strong tendency for foreign exchange rates to rise during the period when imports are greater and for a fall in rates during the period or season when exports exceed imports. Under the gold standard the rates might move to the gold shipping point causing gold to be transferred back and forth on the merely temporary mission of settling seasonal inequalities in trade. This uneconomic practice was largely avoided by the movement of "short-term capital" from the country having the favorable balance to the country with the unfavorable balance. This means simply that the bankers who purchased the foreign bills arising from excessive exports did not reduce the price of such bills to the gold import point. Instead, they temporarily lent the excess accumulations of foreign funds in the foreign money market. They were quite ready to do this because they were confident that in the near future the trade tide would turn and the resulting excess of *imports* would enable them to sell their bankers' bills drawn against their accumulated foreign funds at

a profit. For example, when an excess of exports drove the old pound rate down to \$4.85, the American banks that purchased pound bills at that price and held the proceeds invested in London, might later, when imports began to exceed exports, sell pound drafts for as much as \$4.87 and thus realize an acceptable profit. In such a case the price of London bills remained within the gold points and no gold was shipped.

Banks were willing and able to operate on a narrow margin of profit in the situation just described because of the protection against risk of sizable losses afforded by the existence of the gold-standard gold shipping points. With the breakdown of the international gold standard, such short-term loans by banks in foreign money markets very largely disappeared. It is easy to see that with loss of convertibility into gold and the disappearance of the gold shipping points the risk attending the investment of short-term funds in foreign money markets was greatly increased. Consequently, seasonal fluctuations in foreign exchange rates between inconvertible currencies tend to be much greater than they were under the gold standard. Only intervention into the exchange market by some government agency that is able to assume the risks of exchange fluctuations will adequately smooth out seasonal changes in rates and the speculative movements that may arise out of or accompany them.

Seasonal inequalities in trade: Forward exchange. With the disappearance of bankers' loans in foreign money markets to offset seasonal inequalities in trade, there has developed an increased use of "forward exchange" transactions. An American exporter may expect to ship goods abroad at some future time, say, a month hence. If he wishes to know definitely what he will realize on drafts which he expects to draw, he goes to the foreign exchange dealer and sells foreign exchange for future delivery; that is, when the time comes to ship the goods and draw drafts against the shipment, he will be able to sell the drafts at a fixed price already agreed upon. The bank is able to assume the risk of fluctuations in exchange because of its superior knowledge of trends in exchange rates and because of the possibility of hedging its purchase. It may hedge its purchase of future exchange by contracting to sell an equivalent amount of foreign exchange one month later to American importers. Similarly, a bank may contract to sell future exchange, at a given price, to importers needing it to pay

for expected imports and may hedge or protect itself against loss from a rise in exchange rates by purchasing current (spot) or future foreign exchange bills from exporters. Dealings in forward or future exchange assist in the reduction of exchange rate fluctuations arising from seasonal inequalities in trade since current excess supplies of foreign exchange may be bought and hedged against by sales of future exchange to importers in anticipation of the season when imports tend to exceed exports. Thus the foreign exchange dealer, by ridding himself of risk, can offer a better price for exchange during seasons of excess exports than would be otherwise possible.

USE OF LETTERS OF CREDIT AND BANKERS' ACCEPTANCES

Bank credit substituted for individual credit. Because of the superiority of drafts drawn by exporters on banks under letters of credit, such drafts have come to play an important part in the financing of foreign trade. This is particularly true of transactions in which the exporter grants credit to the foreign importer. The difficulty of obtaining credit information, as well as the longer credit terms often required, makes reliance upon the credit of a bank especially desirable.⁵

Bank credit is introduced into international trade finance through the use of the letter of credit and the banker's acceptance. For example, if an American exporter wishes to sell to a foreign importer on six months' credit, he may request the importer to furnish a banker's letter of credit authorizing the drawing of drafts on the bank instead of upon the importer. Since the bank promises to accept any drafts properly drawn under the terms of the sales agreement, the exporter obtains a banker's acceptance instead of a draft on the importer.

Letter of credit. The foreign importer who must obtain a letter of credit makes application to a bank satisfactory to the exporter. If the importer is a customer of such a bank, his application can, of course, be made directly. If he is not a customer of such a bank, he will make his application through his own banker. The bank to which application is made may be located in another city or even in another country.

The application for a letter of credit is usually a formal docu-

⁵ Edwards, *op. cit.*, p. 39.

ment in which the importer: (1) requests that the credit be issued or opened for a designated beneficiary; (2) describes the number, amount, and tenor of drafts to be drawn under the credit; (3) describes the bills of lading, insurance certificates, and other documents, such as commercial and consular invoices, certificates of inspection, weight, and health, and custom house declarations; (4) describes the origin and destination of the shipment; (5) describes the merchandise to be shipped; and (6) states the date of expiration of the credit. Further, the applicant must give the bank assurance that: (1) he will provide funds to meet the draft when due; (2) he will pay all expenses and the bank's commission; (3) title to the goods will remain in the bank until it is reimbursed; and (4) the bank may take any necessary steps to protect itself against loss.

If the bank is willing to issue the letter of credit, it proceeds to do so either by cable or by mail. If the credit is issued by cable, the bank instructs a certain correspondent bank in the exporter's country to notify the exporter (or beneficiary) of the credit and the terms on which he may draw drafts thereunder. If notification is by mail, the letter of credit may be given to the importer, who sends it directly to the exporter. The letter of credit may contain an agreement by the issuing bank to honor drafts only when accompanied by stated documents. This is known as a *documentary letter of credit*. If it contains no mention of such requirements, it is known as a "clean credit." If the issuing bank does not reserve the right to revoke the credit, the letter of credit is said to be *irrevocable* and cannot be canceled before the date of expiration. Such a credit can further be strengthened by being "confirmed" by the foreign bank, which notifies the beneficiary and undertakes to honor the drafts in case the issuing bank should fail to do so. So long as the terms of the credit are carried out, the importer cannot compel the issuing bank to cancel the credit on account of breaches in the sales contract by the beneficiary. If the letter of credit is revocable, the issuing bank may reserve the right to revoke the credit without notice to the beneficiary. Such a credit is obviously of little value, is little used, and should not be classified as a letter of credit. In other cases revocable letters of credit may be revoked if the beneficiary is notified before he presents his drafts for negotiation.

Import and export letters of credit. In the preceding discussion we have assumed that the issuing bank is located in the importer's country. Under those circumstances the bank is said to issue an "import letter of credit." Sometimes the exporter may desire to avoid exchange fluctuations. In this case the agreement may call for the furnishing of a letter of credit by a bank in the exporter's own country, entitling the exporter to draw drafts on it payable in his own country's currency. The importer, through his bank, must arrange for a letter of credit by a satisfactory bank in the exporter's country. Such a letter is called an "export letter of credit."

Letters of credit for financing shipments between foreign countries. Sometimes the exporter desires a letter of credit issued by a bank in a third country. If so, the importer must make proper arrangements with such a bank. For many years, British banks have engaged in the practice of issuing letters of credit to finance shipments between foreign countries. Since World War I, American banks have also participated in such financing. The demand for this service arises out of the superiority of drafts drawn under such letters of credit over drafts drawn on banks in either the importing or the exporting country. The superiority of such drafts in the mind of the foreign traders may arise out of: (1) the greater stability of exchange rates on the issuing country; or (2) the better price at which such bills may be sold. Thus, during the postwar period, New York banks enjoyed the benefits of the undoubted prestige of the American dollar in a world of depreciated and uncertain paper currencies. The British banks long enjoyed the advantages of a world demand for pound sterling drafts, arising not only out of the need for sterling funds to pay for British exports, but also from the fact that the highly developed discount market in London for the acceptances of British banks enabled foreign exporters to realize the highest possible amount through the discount of London drafts.

The banker's acceptance. The next step in the financing of foreign trade follows the receipt of the letter of credit by the exporter for whose benefit it was issued. First, the merchandise must be properly shipped to the importer under an order bill of lading. The various documents needed must be attached to the bill of lading as evidence of proper quality and other conformance with contractual obligations of the sale. The exporter is now

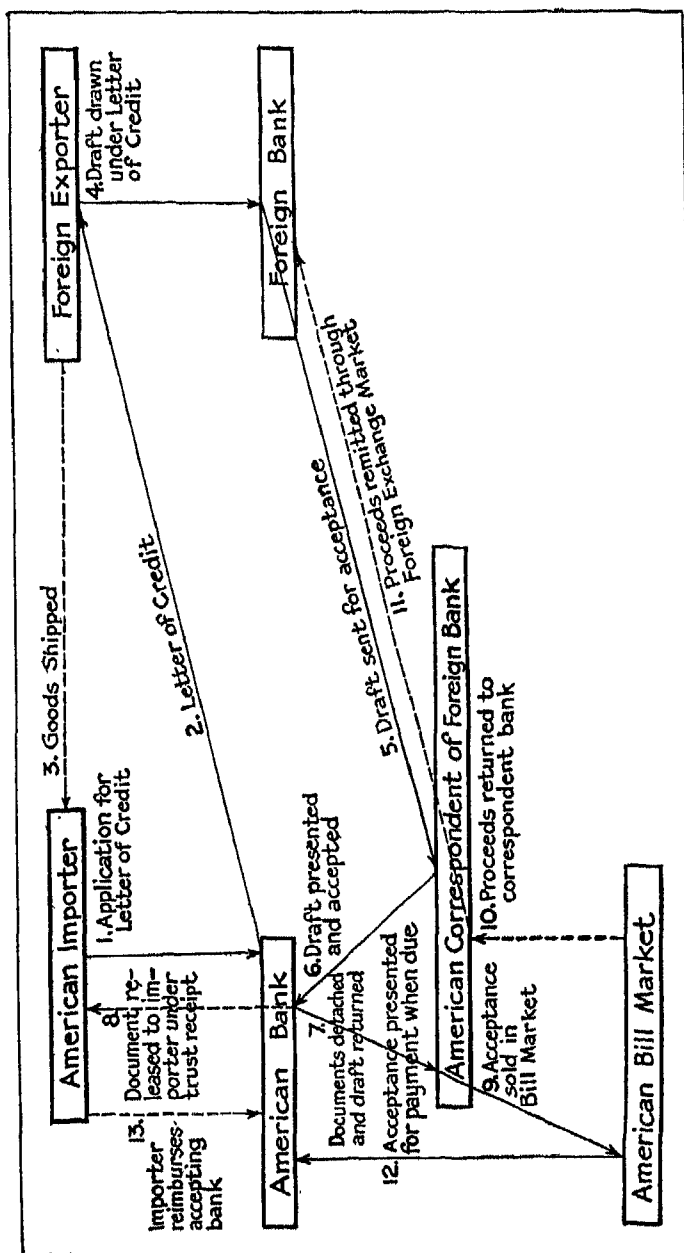


CHART 27. FINANCING AN IMPORT.

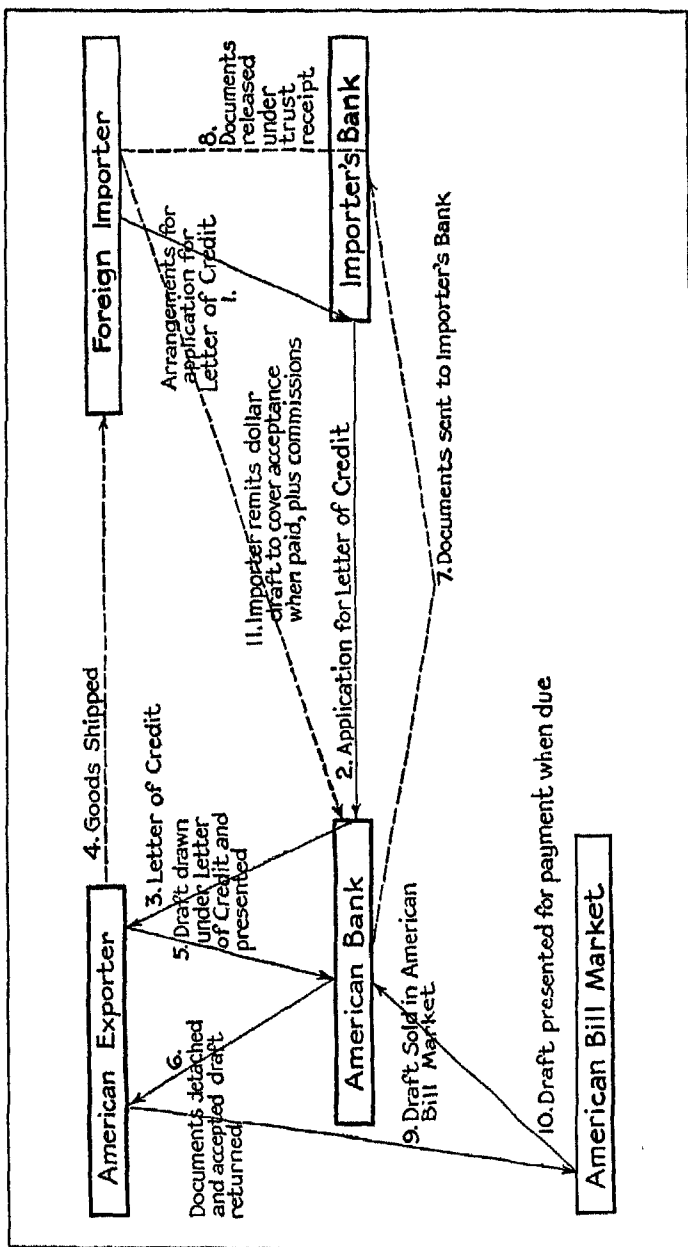


CHART 28. FINANCING AN EXPORT.

ready to draw a bill of exchange against the bank which issued the letter of credit. This bill of exchange or draft, with documents attached, will then be sold to the exporter's bank. The latter sends it to a correspondent bank in the vicinity of the bank on which the bill of exchange is drawn. The correspondent bank then presents the bill for "acceptance," if a time bill, or for payment if it is payable on demand. The bank that first issued the letter of credit inspects the documents to see that everything is in order and then pays it if it is payable on demand, or accepts if it is a time bill. The banker's acceptance resulting from the acceptance of a time bill may then be sold in the open market and the proceeds remitted back to the exporter's bank. The process involved in the use of the commercial letter of credit and the banker's acceptance may be traced through by examining Charts 27 and 28.

Questions for Study

1. Draw up a rough sketch to show the steps by which an exporter extends credit on a sale and shipment of goods to a foreign buyer.
2. Can you name the common types of foreign exchange bills? What is the difference between a *clean* and a *documentary* bill?
3. What is meant by *foreign exchange* rates? How are they affected by (a) maturities of the bills, (b) risk elements, (c) the supply of bills?
4. What are the *gold points*? How do they set the limit to exchange rate fluctuations when currencies are convertible into gold?
5. When currencies are inconvertible, what determines free market foreign exchange rates? Why are stabilizing actions by some government agency necessary to avoid excessive fluctuations?
6. What limits exchange rate fluctuations when governments institute *exchange controls*?
7. Do you understand why the quoted rates of exchange, under free market conditions, are kept the same in various countries through arbitrage dealings?
8. What is *three-cornered exchange*? Why is it more realistic than mere two-way exchange between a given pair of countries? Do you see that the much desired multilateralism in foreign trade involves an extension of the three-cornered principle to trade among a large number of countries?

9. Can you explain the problem of seasonal inequalities in international trade? How was the problem met under the gold standard? How is it met under inconvertible paper?
10. Study carefully Charts 27 and 28. Can you trace through the details of financing imports and exports with the use of letters of credit and acceptances?

International Price Relationships Under the Gold Standard

INTERREGIONAL DOMESTIC TRADE AND PRICES

The similarity between domestic and international trade. A decided similarity exists between interregional trade within a single country and international trade under the gold standard. Because of the familiar nature of the forces that operate in the domestic market, it will be of aid in studying the less familiar processes of international trade to examine first the interregional price relationships that exist within one country.

Interregional domestic price structure. The various specialists engaged in production are presumably located in areas best suited to their particular needs. Trade between these specialists, therefore, is interregional in nature. To the extent that monopoly does not interfere with the mobility of the factors of production, the prices of goods produced by these specialists tend roughly to correspond to their costs of production. The cost of production in any one industry is, of course, the market value of the services of the several factors of production that are used. This market value, or rate of reward to the factors of production, is simply the marginal product of these factors in their general use in other industries. In the long run, the factors of production enjoy a relatively high mobility between different industries within a given country. Factors of any given grade of efficiency, therefore, tend roughly to have the same marginal product and to receive the same reward regardless of the industry in which they

are employed.¹ One may conclude from this observation that goods produced and sold in the domestic market tend to be exchanged on a basis of substantial equality in respect to the quantity of the factors involved in their production. To be located in one industry rather than another tends to offer no particular advantage in the long run. To use a phrase common in discussions of international trade, the "terms of trade" are substantially equal. Exception must, of course, be made to industries operating under monopolistic control.²

The effects of a shift in demand for the product of a given area in the domestic market. Let us suppose that District *A* devotes its energies to making shoes. Under equilibrium conditions, the factors of production used in the manufacture of shoes receive the same income as similar factors in other areas engaged in other types of production. Let us now assume that the increased popularity of riding in motor cars, manufactured in District *B*, causes a decline in the demand for shoes. As a result, the price of shoes falls (unless monopolists in the shoe trade choose to maintain the price and sell fewer shoes), and the income of residents in District *A* is reduced. What adjustments will occur to meet this new development?

The lowered money incomes of the inhabitants of District *A* must cause them, sooner or later, to reduce the scale of their purchases of the products made in other areas. If we assume that the shoe-manufacturing trade is sufficiently competitive to lead to continued sales at lower prices, the "terms of trade" have turned against District *A*, for its shoemaking endeavors enable it to obtain smaller quantities than before of the goods produced in other districts. But the increased demand for motor cars produced in District *B* will increase the money incomes of its inhabitants. Eventually the more attractive rewards of the motor car industries will cause a transfer of an appropriate volume of the factors of

¹ Obviously this is but a rough approximation to actual facts. Fixed capital frequently earns income much below the going rate of interest. Social and economic conditions often tie laborers to one industry or to one location where they earn less than the wages of similar grades of labor elsewhere.

² Whenever monopoly exists in a particular industry, it may enable the owners to trade with the rest of the economic world on somewhat better terms than can the owners of competitive industries. This advantage may be accomplished by restricting output and increasing the rewards going to owners' capital. Similar benefits in the terms of trade may accrue to groups of laborers that monopolize certain trades.

production from shoemaking to the manufacture of automobiles. This transfer may involve an actual physical migration from one district to another or a movement of the automobile industry into District *A*. In any event, equilibrium tends to be restored, with prices in each district again reflecting the relative amounts of the factors involved in the production of their respective goods.³

Changes in interregional capital movements. Let us suppose that part of the savings of the inhabitants of District *B*, normally invested in the industries of that district, are suddenly diverted to investment in District *A*. This shift in the direction of capital investment from *B* to *A* immediately increases the supply of money available to *A* at the expense of *B*. If borrowers of capital in *A* wish to buy the same type of capital equipment as that previously purchased by the displaced borrowers of *B*, the resulting readjustment will be a simple one. The new borrowers in *A* will purchase the output of the capital goods industries of *B*, and the only disturbance will be a decline in the rate of growth of capital equipment in *B*. But if *A*'s capital equipment requirements cannot be met by the producers in *B*, but instead must be produced by *A*, prices and incomes in the capital goods industries of *A* will rise while those of *B* will fall. In the last analysis, labor and capital either will shift from *B* to *A*, where they will aid in the production of capital goods, or, under the compulsion of low prices, will rearrange themselves so as to be in a position to produce in *B* the equipment wanted in *A*. Either or both of these adjustments may be made within an individual country. If neither adjustment were possible, District *B* would have to resign itself to lower incomes and a lower price structure that would enable it to develop a net excess of exports to *A* equal to the net capital investments made in *A* by the savers of *B*.

Shifts in the direction of investment within a single country may command little attention because of the ease with which lending districts can adjust themselves to meet the new capital goods demands of the borrowing districts. Moreover, the ease

³ A change in the foreign demand for the products of a country engaged in international trade will be unlikely to lead to such a restoration of the pre-existing "terms of trade" as is the case in purely domestic trade. The reason for this difference lies in the marked immobility of the factors of production between countries. For this reason, a country that experiences a decline in the demand for its exportable goods will tend to have its price level and money incomes permanently lowered, and will continue to trade with other countries on less favorable terms than before.

with which the domestic banking system copes with the diversion of funds from one area to another helps to minimize the disturbance. When the domestic banking system is closely knit, a shift in the location of funds does not embarrass the banks in the lending areas nor require credit restriction due to losses of reserves. This condition does not always prevail in the case of changes in international capital movements. During the interval between the time when the new lending occurs and the time when equilibrium is again established by the development of a favorable export balance by the lender, the heavy drain upon the gold reserves of the lending country's banks may cause serious difficulty.

The effect of a failure of crops in one area. Let us suppose that District C, which is engaged in agriculture, experiences a failure of crops. Being deprived of its exportable products, District C will experience a fall in money incomes. In their attempt to continue their purchases from other areas, the inhabitants of C must reduce their cash balances to a thinner margin, and funds will flow out of C. Unless the banks of C are closely affiliated with banks in other areas through a branch system, or are able to borrow freely from other areas, distress will be felt by banks and farmers alike in District C. In this situation, no corrective is found in an adjustment of prices. Only borrowing outside to tide over the emergency in District C will suffice to prevent a fall in living standards in that area.

INTERNATIONAL TRADE AND PRICE RELATIONSHIPS UNDER AN INTERNATIONAL GOLD STANDARD

The resemblance of international trade to domestic trade. Under the international gold standard, the relation between the price structures of the several countries closely resembles in one basic respect that between prices within a single country: both international and domestic prices are expressed in terms of gold. Just as disturbances to domestic trade equilibrium, which lead to an unequal balance of domestic payments, generate forces tending to re-establish equilibrium, so disturbances to the equilibrium of international balances of payments generate forces tending to restore equilibrium.

The restorative forces generated by disequilibria in the international balance of payments may meet with more resistance than do the corrective forces in domestic trade. For instance, under

the gold standard a disequilibrium in the balance of payments requires a transfer of money from the country having an unfavorable debt balance, which we may call the debtor country, to the country having the favorable debt balance, which we may call the creditor country. This may require more than the mere shifting of book credits within the banking system, which suffices in the case of most domestic adjustments. The shipment of gold not only involves some expense in shipment and conversion into the currency of the creditor country but also may put strain upon the monetary and banking system of the debtor country. If the transfer of gold is promptly accompanied by a shrinkage of credit, prices, and imports of the debtor country and an increase in credit, prices, and imports of the creditor country, no disastrous consequences to the monetary structure of the debtor country will normally result. When disturbances to equilibrium in the balance of payments are of small magnitude, the corrections normally occur smoothly and easily. But if the causes underlying the debtor's unfavorable balance do not respond readily to gold movements and the resulting corrective price adjustments, the loss of gold continues and may become so serious as to compel the complete abandonment of the gold standard by the debtor country. Such a situation may arise: (1) in the agricultural countries whose exports suffer acute loss of demand owing to world-wide depression; (2) in agricultural countries whose exports shrink severely on account of crop failure; (3) when the internal price structure of the debtor country is too inflexible to make easy and rapid response to disequilibrium in the balance of payments; (4) when the creditor country imposes credit restraints to prevent gold imports from affecting prices; (5) when the loss of gold arises from a flight from the debtor country's currency; (6) when creditor countries impose high tariff and quota restrictions to keep out imports.

THE BALANCE OF PAYMENTS

All discussions of the problems of international trade revolve around the basic question of the balance of payments. Under the gold standard, payments arising out of international trade are primarily handled by the canceling of one debt against another, leaving a small residual amount to be paid in gold. If undue gold losses are to be avoided, a substantial equality of debits and credits

is necessary. Under inconvertible paper currencies, when gold in fixed amounts may no longer be obtained for currency, it is necessary to strike a balance between a country's import and export items, for the international currency is no longer available for making settlements.

The nature of the balance of payments. The nature of the international balance of payments may be seen by examining the debit and credit items which go to make it up. On the debit side should be listed the following items: (1) commodity imports; (2) imported services, including those of shipping, insurance, and services of a financial and personal nature; (3) expenses of travel in foreign countries; (4) remittances of immigrants to relatives abroad; (5) interest and principal payments owed foreigners; (6) the export of capital, which may take the form of the purchase of foreign real property and long-term foreign securities, and the purchase of short-term foreign claims in the form of bank balances and acceptances, and the purchase abroad of internationally traded securities. On the credit side of the balance of payments will appear: (1) commodity exports; (2) exports of all sorts of services; (3) interest and principal received on foreign investments; (4) expenditures of foreign tourists here; and (5) capital imports of all kinds. An examination of the prewar balance of payments of the United States in Table 29 will help one to visualize the nature of the credit and debit items involved.

Temporary inequalities in the debit and credit sides of the balance of payments may be corrected, under the gold standard, by short-term capital movements. For example, an excess of debit items tends to cause an export of gold and an increase in interest rates. The higher interest rates encourage the import of foreign short-term capital (a credit item), which assists in restoring equilibrium and reduces the necessity for the outflow of gold.

But short-term capital movements that offset short-time disturbances to the balance of payments cannot or ought not to be relied upon to offset the more permanent, long-term disequilibria which develop. In order for the gold standard to operate properly, it is necessary that a substantial equality be maintained between the more basic elements in the balance of payments. The maintenance of a proper equality between debit and credit items, therefore, involves the adjustment of the price and cost structures of the several trading countries so that visible and invisible items,

TABLE 29

BALANCE OF INTERNATIONAL PAYMENTS OF THE UNITED STATES, 1939 *
(In Millions of Dollars)

	Receipts from Foreigners from Exports (Credits)	Payments to Foreigners for Imports (Debits)	Net Debits (—) and Credits (+)
<i>Trade and Service Items:</i>			
Merchandise	3,241	2,362	+ 879
Freight and shipping	125	249	— 124
Travel expenditures	170	469	— 299
Personal remittances	45	144	— 99
Institutional contributions .....	...	43	— 43
Interest and dividends	531	211	+ 321
Government transactions	32	96	— 64
Miscellaneous services	147	59	+ 88
Total	4,291	3,633	+ 657
<i>Gold and Silver:</i>			
Gold exports and imports	1	3,575	— 3,574
Gold earmarking operations (net) .....	...	...	+ 534
Net gold movements .....	...	...	— 3,040
Silver exports and imports	14	85	— 70
<i>Capital Items:</i>			
Long-term capital movements	1,624	1,510	+ 114
Short-term banking funds .....	...	...	+ 1,116
Miscellaneous capital items (net) .....	...	...	+ 69
Paper currency movements (net) .....	...	...	+ 117
Total .....	...	...	+ 1,416
<i>Other Transactions and Residuals</i> .....	...	...	+ 1,037

* The trade and service items shown in the balance of payments for 1939 are more typical than are such items in the postwar period. The latter are distorted by economic dislocations, occupation expenses, intergovernmental aid, etc.

over and above short-term capital movements, are in substantial balance.

The balance of payments problem of England and Western Europe. World War II left a train of severe dislocations in the world's foreign trade. Not only had many countries been compelled to abandon their normal export markets in order to devote their maximum production efforts to the war, but also much of their productive capacity fell victim to the devastation of the war. Consequently, efficiency of labor was reduced by inadequate equipment, while at the same time monetary expansion had pushed up wages and other money costs. The end of the war, therefore, found England and Western Europe with high cost structures and reduced productive capacities. In contrast, the Western Hemisphere emerged from the war not only with its productive facilities undamaged but also with greatly increased efficiency. It naturally followed that at the officially fixed rates of exchange maintained by England and Western European countries with the Western Hemisphere their costs were so high that their exports found it difficult to compete effectively in American markets. This difficulty was made worse by the limited productive capacity of these countries and the abundant and efficient capacity of the United States. Even though their costs and prices could be sufficiently reduced to enable these countries to equalize their exports and imports with the West, there would remain the disturbing fact that their standards of living would have to be reduced. For only so could they subsist on the combined amounts provided by production for home consumption and by imports for which their exports could pay.

Political, humanitarian, and long-run economic considerations made an attempt to achieve equilibrium through cost reduction inadvisable in the years immediately following the war. This, then, was the reason for the British Loan of 1946 and the European Recovery Program (Marshall Plan). The currency devaluations of September 1949 constituted a step in the attempt to restore equilibrium by reducing costs. The ultimate solution must eventually involve a greatly expanded level of output and efficiency. We shall study this postwar balance of payments problem in greater detail in Chapter 38.

International price equilibrium. Like all concepts of equilibrium used in economic analysis, international price equilibrium

is not an actually existing state. Rather, it is a relation between the price levels of the different countries that *tends* to result from powerful economic forces operating in the international markets. But certain forces are constantly appearing to disturb this equilibrium. Prices rise and fall, crops flourish and fail, the demand for commodities that move in international trade changes, the direction and magnitude of international capital movements shift. Only when the forces tending to maintain equilibrium in the balance of payments are sufficient to counteract these disturbing factors and promptly restore a substantial degree of equilibrium, can the international gold standard operate successfully.

The price levels of the several gold standard countries are in equilibrium whenever, disregarding purely seasonal variations, claims arising from the exchange of goods, services, and titles to securities (including interest and principal payments but excluding short-term capital movements) cancel out. Under such circumstances, gold movements to pay for unfavorable debt balances are unnecessary. This state of international price equilibrium does not, of course, require an equality of values in the exchanges between any two countries. Rather, it merely requires that the import items of each country and its export items to the rest of the world shall in the aggregate be equal. Thus, an excess of imports from one country may be offset by an excess of exports to other countries. If the full advantages of trade are to be realized, the various aptitudes of different countries for producing economic goods are almost certain to require a balance of this sort rather than an equality of imports from and exports to any single country. The propensity of the United States to produce large quantities of agricultural as well as manufactured products makes it inevitable that our exports of raw materials to England should exceed the value of our imports from her. But from countries able to supply some of our needs for materials, South America for example, we buy more than we sell, and England in turn exports to them a net excess of manufactured goods. This three-cornered trade relation commonly used to illustrate the multiple-sided character of foreign trade, is more typical of actual international trade than would be a simple two-way illustration. Actually, of course, the triangular trade example does not indicate the full complexity of the balancing operations in foreign trade that frequently in-

volve transactions between a large number of nations.⁴ More over, it must be remembered that international price equilibrium does not require that the prices of all commodities be equal in different countries. Nor does it mean that average money incomes are the same in the several countries. What, then, is involved in international price equilibrium?

THE RELATION BETWEEN PRICES AT HOME AND ABROAD

Prices of goods that move in international trade. Whenever a competitively sold commodity moves freely in international trade, its price in terms of gold in the exporting country will differ from its price in the importing country only by the cost of transferring it between the two countries.⁵ The gold prices of internationally traded commodities, in the absence of monopolistic dumping, therefore tend to move in parallel.

Home market or sheltered commodities. The basic factor that determines whether or not a commodity will move in international trade is the relative production costs in the different countries. Whenever the cost of production in Country *A* is below the cost in Country *B* by an amount in excess of the cost of transfer, the commodity will move from Country *A* to Country *B*. It follows, therefore, that the costs of transfer have a large bearing upon the international flow of commodities. Whenever a commodity's weight, bulk, or propensity to deteriorate makes transfer difficult, the possibilities of any sort of interregional trade are limited. Such commodities may move short distances but are incapable of moving into distant markets. Tariffs that must be

⁴ It is not appropriate here to examine the economic principles that determine what commodities will move in international trade under a free economy. Such a study belongs in the specialized field of international trade. For an analysis of these principles, see Ohlin, Bertil, *Interregional and International Trade*, Cambridge, Harvard University Press, 1933, Part III; Taussig, F. W., *International Trade*, New York, The Macmillan Co., 1927; Haberler, Gottfried von, *The Theory of International Trade*, New York, The Macmillan Co., 1937, Chapters IX-XII; and Viner, Jacob, *Studies in the Theory of International Trade*, New York, Harper & Bros., 1937. For an interesting analysis of some of the causes operating to determine when long-term capital movements will occur between countries, see Angell, James W., *Theory of International Prices*, Cambridge, Harvard University Press, 1926, pp. 381-382.

⁵ This covers all costs, both customs duties and shipping costs, which must be incurred in the interregional movement of goods. The cost of transferring goods that commonly do not enter international trade but may do so if costs become sufficiently favorable includes the costs of making new trade contacts abroad. Cf. Angell, *op. cit.*, pp. 378-379.

paid on many goods entering foreign markets constitute sizable barriers in the way of international trade. When pushed to its logical conclusion, a protective tariff may become so high as to prevent altogether certain goods from entering international markets. Personal services, which cannot be divorced from the individual producing them, provide another example of economic goods that cannot freely enter international trade, for the export of a service of this sort depends upon the ability of its producer to move into the foreign country long enough to perform it for the inhabitants of that country, or upon the ability of the foreigners to cross the boundary line and consume the service on the spot. To a limited extent such exchange of personal services regularly takes place among the inhabitants who live near to the boundary. There have been times when the people of the United States have purchased very sizable quantities of foreign services by travel abroad.

Those commodities that for all practical purposes are economically not transferable are called "home market" or "domestic" commodities, and as such they do not enter into international trade.⁶ The home producers of such articles are protected from foreign competition and domestic prices are not directly influenced by the changes in prices of similar articles abroad. The producers of these articles are in a "sheltered" economic position, and the commodities themselves are sometimes known as "sheltered" commodities, to contrast them with "unsheltered" commodities that move freely in international trade.

Many commodities are more or less on the border line between home market or sheltered goods and international or unsheltered goods. Any change in the cost of production or in the price of such a commodity, or a change in the transfer costs, may shift it from the category of domestic to international goods, and vice versa. To the extent that the costs of transfer allow only a limited movement of such goods in international trade, they are partially sheltered.

GOLD STANDARD EQUILIBRIUM AND INTERNATIONAL PRICES

When the international balance of payments of a gold standard country is in equilibrium, its price structure is such that,

⁶ It should be noted that commodities may sometimes be exported to a near-by foreign country while transportation costs may prevent their sale in remote parts of the home market.

taking visible and invisible items into account, its exports are equal to its imports. Equilibrium is disturbed whenever the value of import and export items becomes unequal. Unless other forces promptly act to restore equilibrium in the balance of payments, gold must flow, and there must occur appropriate changes in the level of costs and prices at home and abroad.

When fundamental conditions have disturbed the balance of payments, price adjustments must take place if equilibrium is to be restored. But it is inadequate to show merely that the selling prices of internationally traded goods change and thus correct the trade balance. So long as there is any actual transfer of such goods in international trade, their prices tend constantly to be equalized, save for their transfer costs, regardless of whether the balance of payments is equal or unequal. The readjustments required for the basic equilibrium in the balance of payments must therefore go further than a change in *prices* of international goods. This equilibrium involves changes in the *costs of production*, or in the prices of the factors of production involved in making these goods. For it is changes in the cost of production that determine the extent to which commodities fall into the category of international goods capable of entering international trade. In the short run, when most factors of production have sticky prices, adjustments in the profits of entrepreneurs engaged in exporting, rather than changes in costs, may occur. But the willingness of producers to take losses rather than suffer a shrinkage of export markets must be supplemented eventually by readjustments in costs, if an unfavorable balance of payments is to be corrected.

The shift in relative costs, upward in a country having a favorable balance and downward in a country having an unfavorable balance, changes the degree of shelter afforded commodities by the transfer costs. Commodities previously just on the exportable margin can no longer be sold abroad when a favorable balance of payments results in rising costs. Falling costs in countries having an unfavorable balance of payments expand the list of exportable commodities by releasing some goods that were previously too costly for export. It is in this manner that a change in prices and price levels promotes a restoration of equilibrium in the balance of payments.

The effect of conditions of increasing cost. Because some domestic trades are industries of increasing cost, a country sometimes is able profitably to supplement its domestic production of

a commodity with imports from abroad. The English wheat trade provides a familiar example of such industries. Some wheat may profitably be produced by English farmers for sale in the English market. But English farmers, having but a limited supply of available land, are unable to supply all of the wheat needed by the local population. Beyond a certain point, added production of domestic wheat incurs costs which exceed the cost of importing wheat from the great growing areas outside. Any change in the transfer cost involved in importing wheat and any change in the cost of growing wheat at home or abroad will change the relative proportions between the amount of wheat produced at home and the volume of imported wheat. For example, if an unfavorable balance of payments is tending to force down the English price level, a larger part of the wheat consumed in England will be produced at home and less will be imported. Thus, marginal quantities of wheat are shifted from the category of international to that of domestic goods.

The relation of domestic or sheltered goods to international price movements under the gold standard. As we have already observed, the prices of commodities that enter the international markets move in parallel, with prices in the export country below those of the importing country by an amount equal to the costs of transfer. Prices of goods of the semisheltered class are similarly, though not so rigidly, related, because any marked change in prices and costs may move them into the unsheltered category and lead to international shipments.

Prices of completely sheltered or purely domestic goods are in no direct way connected with prices of similar goods abroad. For example, there is no direct reason why the price of a given sort of stone house in England should resemble that of a similar house in Indiana, since price differences cannot be great enough to make it profitable to move either the house or the material of which it is made from one place to the other. Nor will the effects of any price differences be likely to affect materially the volume of tourists who might go to live in the low-cost houses.

Nevertheless, there is an indirect connection between the price levels of completely sheltered goods in different gold standard countries. This connection lies in the common origin of all economic goods produced in any given region or country. Basically, the same factors of production are involved in the production of

both sheltered and unsheltered goods. Thus, when the price of factors of production used to make unsheltered goods are increased (because of international price movements), by the principle of opportunity costs the prices of factors used in making sheltered goods will tend to rise also. The degree of lag involved, of course, depends upon the degree of mobility of the factors of production between the sheltered and unsheltered goods industries. Furthermore, raw materials used in the production of sheltered goods may themselves be unsheltered and enter the international markets, whereas sheltered raw materials may be used in the manufacture of unsheltered goods. If domestic or sheltered goods have close substitutes that move freely in international trade, the prices of such domestic goods are exposed to the influences of international price movements.⁷

In spite of what we have been saying about the forces that tend to connect international price movements with the prices of purely domestic goods, it does not follow that there need be any exact equality of price for a domestic good in the different gold standard countries. The rewards of the factors of production involved in producing domestic commodities in a given country must be substantially the same as those producing goods that enter the export trade. The factors of production in one country may be more efficient than those of other countries. If so, their money rewards will be higher than the rewards of less efficient factors elsewhere. To illustrate, if Country *A*, using 1,000 units of factors of production, produces \$1,000,000 worth of goods, which it sells to Country *B*, and Country *B* in turn uses 2,000 units of factors of production to produce \$1,000,000 worth of goods for sale to Country *A*, the balance of payments between *A* and *B* will be in equilibrium so far as their price and income structures are concerned. But the factors of production in Country *A* will be worth \$1,000 per unit, and those in Country *B* will be worth but \$500. Now, although the factors in either Country *A* or Country *B* must necessarily receive approximately the same rate of reward whether producing purely domestic goods or goods for export, the price of any given type of sheltered commodity in one country will correspond closely to the price in the other country only if the relative inefficiency of the factors in *B* is as great in the production

⁷ Cf. Ohlin, *Interregional and International Trade*, pp. 152-156.

of the sheltered commodity as in the production of goods for export. This is unlikely to be true. Let us suppose that in Country *A* 3 units of factors of production are required to build a house of a given type. Because the price of each unit of factors is \$1,000, the house would cost \$3,000 and would not be produced unless its value was at least \$3,000. If factors of production required to build a similar house in Country *B* have the same absolute efficiency at house building as do the factors in Country *A*, then 3 units of factors in Country *B* would also provide a house. But because of the relative inefficiency of the factors of Country *B* in producing products for export, their money price is but \$500, so that the cost of the house in Country *B* would be but \$1,500. Under these assumed conditions, the price of the house in Country *A* would be \$3,000 and in Country *B* \$1,500 with no disturbance to the equilibrium in the balance of payments. Only if 6 units of factors were required in Country *B* to build the house would its price there be \$3,000.⁸

METHODS OF SETTLING ACCOUNTS IN INTERREGIONAL TRADE

Before proceeding with our study of the manner in which equilibrium in the balance of payments is maintained, it will be well to examine the methods by which settlements are made in interregional trade. In principle, such settlements offset claims of one area against those of another so far as possible and pay only the net amounts that cannot be cleared by offsetting. The method of making these net payments and the consequences of such payments constitute the problem which now confronts us.

The settlement of domestic interregional debt balances. Within a given country, the appearance of an adverse trade balance in one area gives rise to a flow of money payments from that area to the areas having a favorable balance. To pay the adverse trade balance, depositors of banks in the debtor area send checks in excess of checks received to creditors in other areas. These payments may require currency movements from banks in debtor areas to banks in creditor areas. If so, checks on banks in the debtor area will be accepted by banks in creditor areas at a dis-

⁸ For a good discussion of this point, see Harrod, R. F., *International Economics*, New York, Harcourt, Brace & Co., 1933, Chapter IV.

count equal to the cost of shipping the currency. If some impediment to the free movement of currency appears, such as a suspension of the drawee banks or an obstruction to the operation of transportation facilities, the discount on such checks (or drafts) may become substantial. Before the development of the Federal Reserve System in the United States, it was common for checks to sell at a discount. The whole system of exchange charges that existed at that time was in part an outgrowth of the cost of shipping currency from one area to another. Today the cost of domestic interregional transfer of funds has been reduced to a minimum by the development of the Federal Reserve collection system and the use of the Interdistrict Settlement Fund. In countries having large-scale branch banking systems, the necessity for currency shipments between districts is largely obviated by the ability to shift credits within each branch system.

Settlement of international debt balances under the gold standard. The settlement of international debt balances can seldom avoid the costs incident to the movement of the standard international currency. To be sure, temporary debt balances may be cared for by a shift in short-term capital, a matter to which we shall give more attention later. But debt balances due to basic changes in the balance of payments cannot safely be settled in this manner. Unless the creditor country is willing to earmark gold for storage in the debtor country or is willing to use some form of the gold exchange standard, the cost of gold shipments assumes a place in the problem of settlements.

In foreign trade transactions, it is customary for settlement to be made by the drawing of drafts by exporters (and other creditors) upon debtors in other countries. Thus, American exporters of goods, services, and securities may be thought of as the originators of foreign bills of exchange in this country. These bills of exchange, demanding payment from foreign debtors, make up the supply side of the foreign exchange market. The drawers of these drafts are able to convert them into domestic currency by selling them to the foreign exchange bankers, who send them abroad to foreign bankers with whom the American bankers carry accounts. The foreign correspondent banks undertake to present these drafts and collect the proceeds, which are then credited to the American bankers' balances. American importers, on the

other hand, being indebted abroad, make payments by purchasing and remitting drafts drawn on the foreign banks from the American foreign exchange bankers.

Insofar as the money value of all import and export items (visible and invisible) are equal, the buyers of foreign exchange bills will absorb the supply. But if export items are greater than the import items, the bankers who are buying the exporters' bills will find their holdings of foreign balances (or foreign exchange) piling up in undesirable amounts. This situation necessarily brings a lowering of the price offered for foreign bills by the bankers. On the other hand, an excess of import items over exports tends to result in a higher price for foreign bills, since some importers cannot be accommodated by the bankers who find themselves unable to purchase enough foreign bills to enable them to meet the importers' demands.

Under the gold standard, however, there is a limit to the possible variations in the prices of foreign bills of exchange. The relative gold content of the currency units of different countries (or the gold into which the currencies may be converted) is known as "mint par." When there are no abnormal barriers to the process of converting currencies into gold, it is impossible for the value of bills of exchange payable in foreign currencies to fall to a price less than mint par minus the cost of converting such bills into gold and bringing the gold back to the point of origin. This point was discussed, it will be recalled, in the preceding chapter.

Questions for Study

1. When the demand for a product of Region A declines in comparison to that of Region B, how will incomes in A be affected? What long-run adjustment should be expected if Region A and Region B are within the same national boundaries? What if they are located in different countries?
2. In what ways does interregional trade within a country resemble that between gold standard countries? In what ways does it differ?
3. Note carefully in Table 29 the various items entering the prewar balance of payments of the United States. Do you understand the capital movement items?
4. Why did World War II create such severe balance-of-payments problems for England and Western Europe? Under the condi-

tions existing in the immediate postwar years, why would a reduction in foreign exchange values of the currencies of these countries have been inadequate to restore equilibrium in their balance of payments?

5. What are *sheltered* and *unsheltered* goods?
6. When goods move in international trade, what tends to be the relationship between their costs (converted at the ruling exchange rates) in the importing and exporting countries?
7. What international tie-up, if any, exists among the prices of domestic or sheltered commodities?
8. Why are domestic interregional debt balances more easily settled than are international debt balances?

The Maintenance of Equilibrium Under the Gold Standard

WE HAVE ALREADY EXAMINED THE NATURE AND MEANING OF INTERNATIONAL price equilibrium and the relationship that must exist, under the gold standard, among prices in different countries or regions. Our next problem is to learn something of the mechanism by which disturbances to equilibrium in the balance of payments are offset and corrected.

ESTABLISHMENT OF INTERNATIONAL PRICE EQUILIBRIUM

The present-day significance of analyzing gold standard equilibrium. In a world in which national currencies rather than gold standard currencies are the rule, one may well inquire as to the significance of an analysis of the manner in which international equilibrium is maintained in a gold standard world. A justification for such an analysis may be found in that:

1. The problems of maintaining equilibrium conditions under the International Monetary Fund are essentially the same as those involved in maintaining gold standard equilibrium.
2. The case for independent currencies is based mainly on the belief that the exactions of maintaining equilibrium under stable exchanges, as we shall study them, are too severe for modern economies to endure.
3. The problems associated with exchange control require an understanding of the fundamentals of international price equilibrium.

Reasons for disequilibrium in the balance of payments. A number of different occurrences may be responsible for disturbances to equilibrium in the balance of payments. One important cause of disturbance may be a change in the foreign demand for a country's exports. This change may arise from changes in consumers' tastes abroad, from the development of cheaper or better supplies in other countries competing in the international export market, or from changes in transfer costs. Another source of disturbance may appear in some catastrophe of nature which destroys the current supply of exportable goods. A world depression may cause a sharp shrinkage in the demand for a country's exports, both raw materials and manufactured goods. Cyclical fluctuations within the country, with the accompanying inflation and deflation of prices, tend to disturb the balance of payments. Sizable changes in the direction and volume of long-term international lending sometimes prove embarrassing both to debtor and to creditor countries; and the abrupt and heavy movements of short-term capital—the result of flight from currencies suspected of weakness—sometimes prove disastrous because of their violent and cumulative nature. Finally, war, so destructive of normal trade between nations, completely upsets existing equilibrium.

Corrective forces arising from international disequilibrium. It is clear that the gold standard can operate only if the drain of gold out of countries which develop adverse debt balances can be stopped before it goes so far as to jeopardize the safety of currency and banking systems of those countries. Long experience with the gold standard indicates that in the ordinary course of events the necessary corrections may actually take place smoothly and without too much disturbance. Since 1931, many writers have attacked the gold standard on the grounds that it cannot meet the strain put upon it. But these attacks, based largely upon the very real difficulties growing out of the depression of 1929–1939, must not cause us to lose sight of the fact that the gold standard did, in fact, operate with reasonable success over a long period of years.

The classical theory of international trade sought to explain the maintenance of equilibrium conditions between the price structures of the gold standard countries by resort to the quantity theory of money. According to this view, an unfavorable debt balance for one country causes foreign exchange rates to rise to the gold export point, and an outflow of gold results. Applying the

quantity theory, the loss of gold reduces the volume of bank reserves, causes a shrinkage of credit, and leads to a fall in the price level. On the other hand, countries having a favorable debt balance gain gold. As a result, credit expands and prices rise. Thus, equilibrium is restored by a downward adjustment of prices in the country with an unfavorable balance of payments and a rise in prices in countries with favorable debt balances.¹

Some serious criticisms of the classical explanation may be made. First, it relies for its validity upon the assumption that gold movements result in *prompt* changes in the price level. Clearly, if the gold standard is to work smoothly and efficiently, the forces tending to re-establish and maintain international price equilibrium must operate rapidly and positively enough to prevent any serious inroads upon the gold supply of a country suffering an unfavorable debt balance. A failure of these forces to result in a prompt re-establishment of equilibrium conditions endangers the ability of countries losing gold to maintain the convertibility of their currency. In spite of the long-run validity of the assumption that prices vary directly with changes in the quantity of standard money, it cannot be depended upon in the short run. The classical view that high prices attract goods, repel gold, and lead to an unfavorable balance of payments is of little value in explaining the often observed phenomenon that gold flows into a country where business is expanding and prices rising, and flows out of countries suffering from depression and low prices. Because of the serious question of the effectiveness of gold movements in bringing about immediate price changes, attempts have been made to develop more realistic explanations of the method by which international price equilibrium is established and maintained.²

Spontaneous forces tending to restore international price equilibrium. What are sometimes called "spontaneous" causes tending to restore and maintain international equilibrium rest

¹ Cf. Taussig, F. W., *International Trade*, New York, The Macmillan Co., 1927, pp. 198-199. For a detailed examination of the classical theory, see Viner, Jacob, *Studies in the Theory of International Trade*, New York, Harper & Bros., 1937, Chapter VI.

² For a discussion of the criticisms of the classical theory, see Haberler, Gottfried von, *The Theory of International Trade*, New York, The Macmillan Co., 1937, Chapter III. Also see Angell, James W., *The Theory of International Prices*, Cambridge, Harvard University Press, 1926, Chapter XIV. Angell points out that the majority of the Continental economists have never accepted the English classical theory (pp. 365-368).

primarily upon a shift or transference of purchasing power. According to this view, a country having an adverse or unfavorable balance of payments loses purchasing power by an amount equal to the deficiency. On the other hand, countries having a favorable balance of payments receive additional purchasing power. Now this approach is not dissimilar to the classical explanation based upon gold movements, but there is this essential difference. The theory based upon spontaneous causes attempts to show that the corrective forces of shifting purchasing power may appear before gold movements occur. In such a case, the movements of gold may be avoided altogether. But if some gold movements do occur, the spontaneous forces fortify and supplement the corrective influences of the gold movements.

Let us examine the reasons for thinking that a shift in purchasing power will tend to occur from the country having an adverse balance of payments to one having a favorable balance. So long as a country's "import" and "export" items are in balance, there will be no reason to expect any resulting change in its effective money supply. But, if for any reason its exports expand so as to exceed its imports (or if its imports shrink) the drafts that exporters draw against foreign buyers and offer for sale to the banks will exceed the demands of importers for bankers' drafts drawn against foreign balances held by the banks. Consequently, exporters, by selling their foreign bills to the banks, receive domestic currency and bank deposits in excess of that surrendered by importers. Thus the banks of the country having a favorable balance of payments will have expanded the domestic money supply in exchange for foreign bills or claims against foreign currency. This occurs regardless of whether or not the banks continue to hold their expanding foreign balances or convert them into gold. On the other hand, the country having an unfavorable balance of payments will find its domestic money supply (currency and bank deposits in the public's hands) shrinking as importers' funds are transferred to the accounts of foreign banks.

The increase in purchasing power in the country having a favorable balance of payments occurs in the form of a net rise in money income. Likewise the decline in purchasing power accompanying an unfavorable balance takes place through a fall in money income. These shifts in income will normally be reflected in appropriate changes in the demand for commodities. Thus the rising

demand for commodities in the country with the rising income will include a rise in the demand for imports. In contrast, the country that suffers a fall in income will experience a shrinkage in demand, including its demand for imports. It follows, therefore, that corrective adjustments in the movement of commodities may begin *without price level adjustments* or gold movements. This is not to say that changes in income flow will not also generate appropriate price level adjustments, which will be helpful in restoring equilibrium. It does indicate, however, that price level changes, so likely to lead to undesirable disturbances in a world of sticky, inflexible costs, are of less significance in the maintenance of equilibrium than has often been thought.

An example of the appearance of spontaneous correctives may be seen in the case of a country confronted by a failure of its exportable crops. Unless imports promptly shrink to the same degree as do exports, a serious loss of gold is likely to follow. To what extent may such a shrinkage of imports be expected to occur? The failure of crops must necessarily curtail the money incomes of the growers and exporters. To the extent that such individuals are direct purchasers of imported goods, the shrinkage in their incomes must necessarily tend to cause an immediate and positive reduction of imports. Only to the extent that they are able and willing to reduce their customary cash balances, or to increase their bank loans, will their demand for imported goods decline less than the decline in value of exports. When exporters do not buy imported goods but instead buy the products of domestic producers who in turn are the purchasers of imports, the reaction on imports of a decline in exports is more remote and likely to be somewhat longer delayed. In this case, there is a greater possibility of continuing the purchase of imports by depleting cash balances. In addition, the spontaneous tendency of imports to shrink will be checked if businessmen are sufficiently optimistic to replenish their cash by borrowing from a banking system able and willing to expand its loans.³ If the unfavorable balance of payments develops to the point where gold must be exported, the

³ For an exposition of this view, see Paish, F. W., "Banking Policy and the Balance of International Payments," *Economica*, November, 1936, pp. 409-413. For a discussion of the automatic restoration of equilibrium, see also Heilperin, M. A., *International Monetary Economics*, New York, Longmans, Green & Co., 1939, pp. 151-156.

loss of gold may *accompany*, rather than *cause*, a shrinkage in credit, imports, and business activity resulting from the decline in exports. This is not to deny, of course, that the loss of gold may in turn cause a rise in discount rates and contribute deflationary pressure, which tends to reduce imports.

Spontaneous corrections that may appear in connection with changes in international capital movements. An adverse balance of payments arising out of changes in the direction or volume of international lending may likewise induce the appearance of spontaneous correctives. For example, let us suppose that Country *A* increases its loans to Country *B* by expanding the purchase of Country *B*'s securities. Sellers of these securities in Country *B* will come into possession of bills of exchange on Country *A* which will be sold to banks of Country *B* in return for deposits. The purchase of these bills by the banks of Country *B* is conditioned, of course, upon their possession of some excess reserves. To the extent that borrowers in *B* spend their new funds for the purchase of increased amounts of capital goods from Country *A*, exports from *A* will rise sufficiently to offset its new loans to *B* without any need for a change in the price level in either country. But if borrowers in *B* require larger amounts of capital goods of the type produced only at home, the solution is not so simple. To restore the balance of payments now requires that some other reason be found for an expansion of *A*'s exports and *B*'s imports. This might occur spontaneously as a result of the expansion in *B*'s capital goods industries if the raw materials needed are available in *A*. But there is likely to be required some change in the credit and price system of both countries if any very sizable readjustment in the balance of payments is to be accomplished.

It is entirely possible that an adjustment in the price and credit structure may occur without any substantial movement of gold between the two countries. The decline in the demand for capital goods in Country *A*, assuming that borrowers in *B* do not purchase their new capital there, may cause a slump in business activity and some decline in credit and prices. In Country *B*, on the other hand, the stimulating effects of added pressure on its capital goods industries will promote credit and price expansion. Borrowers in *B* will sell their foreign exchange to their banks in exchange for deposits and currency. If the banks in *B* are already supplied with excess reserves, this can occur smoothly and readily.

If the banks are able and willing to expand their domestic credit structure upon the basis of foreign exchange reserves carried abroad, a very considerable adjustment can be achieved without the movement of gold. Under these circumstances, the shrinkage of credit in *A* may permit the withdrawal of gold from *A* to *B* without any pressure resulting directly from the gold movement. In such a case it need not be said that the corrective changes in prices and credit arose out of the gold movement, but rather that the gold movement facilitated the process of adjustment automatically set in motion by the original international capital movement.⁴

GOLD MOVEMENTS AND INTERNATIONAL PRICE EQUILIBRIUM

To the extent that readjustments are not brought about promptly or completely by the spontaneous or automatic forces arising directly out of occurrences responsible for disequilibrium in the balance of payments, gold movements must take place. Countries with favorable balances will gain gold at the expense of countries having adverse debt balances. Before gold movements will occur, however, foreign exchange rates in a country having a favorable balance of payments must decline to the gold import point. A mild though not altogether negligible corrective factor appears in connection with this movement of exchange rates. The fall in foreign exchange rates encourages imports and discourages exports. Within the limits set by the gold import and export points, exchange rates will move in a manner which acts to restore equilibrium in the balance of payments.

Gold movements and the restoration of equilibrium. Gold movements between countries operate to affect the balance of payments in several ways. First, the import and export of gold, which may accompany the spontaneous correctives, have a direct effect upon the volume of purchasing power within the countries involved. In the absence of offsetting operations by the central bank, the export of gold directly reduces the supply of effective money of the exporting country. Similarly, the effective money supply of the gold-importing country increases by an amount equal to the gold gained. Such primary effects of gold

⁴ For a detailed examination of this approach, see Bertil Ohlin's *Interregional and International Trade*, Cambridge, Harvard University Press, 1933, Chapter XX.

movements upon the purchasing power within the countries concerned appear regardless of whether or not any secondary results in the form of multiple expansion or contraction of bank credit accompany them. Second, gold movements normally have some effect upon the discount rates. Unless the banking system is adequately fortified with a generous supply of excess reserves, the export of gold will cause some tightening of the money market and some rise in the discount rate. Likewise, the import of gold will lead to easier money rates in the importing country unless its banks are already in possession of excess reserves.

The changes in discount rates, just referred to, set in motion two separate and distinct forces, each of which helps to check the outflow of gold. The first of these, which develops quickly and assists in dampening down the pressure upon the debtor country's gold supply, is the movement of short-term capital into the debtor country in response to the higher discount rate. The second operates more slowly to remedy the fundamental causes of disturbance in the balance of payments. It takes the form of stimulating business activity, prices, and imports when the discount rate falls because of gold imports, and of reducing business activity, prices, and imports when the discount rate is increased. Each of these will now be examined.

Short-term capital movements and the balance of payments. The gold standard, working properly and commanding general confidence, provides the certainty which is required if short-term capital is to move freely between international money markets in response to differences in the discount rates. Short-term capital movements mainly take the form of the purchase of (1) bank balances; (2) bankers' and trade acceptances; (3) treasury bills; and (4) long-term internationally traded securities. The increase in the discount rate within the country having an adverse balance of payments induces the purchase of short-term claims against it by foreign bankers and other foreign investors. This action increases the credit side of the balance of payments and helps, temporarily, to restore equilibrium.

Some adverse debt balances arise from accidental or seasonal variations in trade. Given sufficient time, such variations will largely cancel out. In such cases the movement of short-term capital in response to differences in the discount rates quickly checks the movements of gold and minimizes them. Further-

more, some corrective short-term capital movements may occur without discount rate changes. For example, if the United States develops an unfavorable trade balance regularly each summer, with a reversed situation during the winter months, foreign bills of exchange will be dear in summer and cheap in winter. If there were no speculative dealings in foreign exchange, rates would tend to move to the specie moving points, and gold would be shipped to meet the temporary disequilibrium in the international balance of payments. But, because of the predictable and regular seasonal nature of the movements of the balance of payments and the protection afforded by the gold points, American bankers are able to purchase foreign bills during the winter while they are cheap, collect the proceeds, and invest them abroad. Later, when foreign bills are dear, they will dispose of these foreign funds by offering drafts drawn against them in the foreign exchange markets. All this will occur *without* any gold movements and *without* discount rates being higher abroad than at home. This practice, common under the full international gold standard, involves excessive hazards under inconvertible paper, so that, without the gold standard, corrective movements of short-term capital are much less likely to take place.

Short-run capital movements that assist in the restoration and maintenance of equilibrium in the balance of payments may be described as "equilibrating" to differentiate them from the "disequilibrating" short-term capital movements that characterize "flights" from currencies under suspicion. The equilibrating type of short-term capital movements occur regularly, as we have just seen, in a well-established world gold standard, and largely depend upon confidence in the several currency systems. The disequilibrating type of short-term capital movements, on the other hand, occur in times of international financial panic and tend to upset the equilibrium in the balance of payments instead of helping restore it. The disequilibrating type of capital movements will be examined more fully later.

Even when disturbances in the balance of payments arise from causes other than regular seasonal developments, some short-term capital may move to the country which is temporarily experiencing an adverse balance, since bankers may anticipate that a reversal will shortly be forthcoming. In many cases, however, irregular and unpredictable adverse balances of any great size are unlikely

to attract short-term capital in sufficient quantity to prevent altogether an outflow of gold.

Basic corrections in the balance of payments resulting from changes in discount rates. The import or export of long-term capital constitutes one important item in the balance of payments of many countries. The export of long-term capital, evidenced by a net inflow of foreign securities, is a debit item in a country's balance of payments. A change in the discount rate will cause some change in long-term interest rates, which in turn may affect the volume of such foreign lending. This may occur because of the effect of interest rate changes upon the absolute volume of capital that foreign borrowers will take, or because a change in interest rates relative to rates ruling in other international loan markets will cause a shift away from or to those other markets, as the case may be.

A second corrective result of a change in discount rates arises from the effect of such changes on domestic business activity. A rise in the rate tends to retard, but a lowering of the rate tends to expand the rate of business operations. For example, if the discount rate is increased and business activity declines, two influences are put to work to correct an unfavorable balance of payments. The first and most immediate result is to cause a decline in imports. The second result, more remote and perhaps more basic, is the decline in prices and costs which the slackening of business brings about. On the other hand, if a favorable balance of payments leads to an import of gold and a drop in the discount rate, the resulting expansion in business activity will stimulate imports and lead to higher prices.

Gold movements without corrective effects on the balance of payments. The full corrective effect of gold movements appears only if changes in the gold supply cause equal changes in the reserve funds of the banking system. Furthermore, through the operation of the discount rate, the change in reserves must lead to corresponding and proportional changes in the volume of bank credit if corrections are to appear that are of greater significance than the spontaneous ones discussed earlier. But neither of these results may be forthcoming. The extent to which the commercial banks make use of available reserves to support their credit structures varies with the state of business. In depression, excess reserves may pile up, as we so well know. During prosperous

times, on the other hand, the banks are generally "loaned up." Still more important are the varying and unpredictable credit practices of central banks. To illustrate, the central bank may adopt any one of three policies following the receipt of newly imported gold. First, it may remain passive and allow the imported gold to increase the commercial bank reserves. Second, it may choose to offset the effect of the gold imports upon bank reserves by reducing its holdings of securities. Third, it may permit the newly acquired gold to become a base for new bank reserves in excess of those created directly by the gold imports. To accomplish this, it may lower the rediscount rate or purchase securities in the open market. Similarly, the central bank may ignore, nullify, or magnify the effect of gold exports.⁵ Without doubt, central bank managers, in the formulation of their credit policies, believe that they are guided by the highest motives, the foremost of which is the desire to stabilize or improve internal business conditions. But the offsetting of gold movements in the interest of domestic stability, as practiced by central banks, reduces the corrective forces contributing to maintenance of equilibrium and therefore handicaps the operation of the gold standard. Furthermore, whenever an agency of the treasury or a stabilization fund operates to prevent gold movements from affecting bank reserves, the corrective effects are limited altogether to the spontaneous forces arising from the shift in purchasing power.

Moreover, some gold movements take place that tend to aggravate rather than correct the basic disequilibrium in the balance of payments. Such movements occur whenever high interest rates and speculative increases in stock prices, accompanying a domestic boom, cause an inflow of short-term capital requiring an import of gold. During such a time, imports flourish, exports are discouraged, and were it not for the inflow of short-term capital, the balance of payments would appear unfavorable and gold would be exported. A loss of gold in such a case is needed to check the boom in prices and restore equilibrium. But when gold moves in instead of out, it accentuates rather than corrects the basic disequilibrium in the balance of payments.

Finally, gold movements that arise between countries whenever

⁵ It is difficult to discover a sufficiently well-defined pattern of central bank policy to permit any safe predictions as to the behavior of central banks. Cf. Viner, *Studies in the Theory of International Trade*, pp. 391-392.

international financial panic seizes the world's money markets cannot be thought of as assisting to maintain equilibrium in the balance of payments. Early in 1931, in certain countries economic pressure due to the depression led to financial collapse followed swiftly by general panic. Deprived of the certain protection of the gold standard by the threat of a general abandonment of gold, short-term capital frantically began to seek security by moving rapidly away from money centers that were under suspicion to those believed to be safe. Under these circumstances, gold movements required to accommodate the shifts in short-term capital were in no way related to the requirements for basic equilibrium in the balance of payments. Furthermore, when interest rates rise within a country which loses gold in this manner, a return flow of short-term capital is not induced. The propensity of short-term capital to flee from real or fancied insecurity completely overcomes its normal tendency to be attracted by higher interest rates. The flight of short-term capital at such times contributes seriously to the breakdown of the international gold standard.

THE TIME INVOLVED IN RESTORING EQUILIBRIUM IN THE BALANCE OF PAYMENTS

Having examined the corrective forces that operate to restore and maintain equilibrium in the balance of payments, we are now ready to consider the question of the rapidity with which these correctives may be expected to act. The ease and rapidity with which equilibrium in the balance of payments is restored after having been disturbed depend upon the circumstances which exist within the countries involved.

The ease of readjustment as related to types of commodities involved in foreign trade. The ease and rapidity with which a country's balance of payments may be restored to equilibrium depend to a great extent upon the type of commodities which make up its imports and exports. For example, if a country with an adverse debt balance normally imports high-priced consumption goods and durable goods, it will find it relatively simple to reduce the value of such imports because of the ease of postponing the purchase of durable goods and the possibility of switching from the purchase of high- to lower-priced consumption goods. The loss of income and purchasing power which results from the

adverse balance of payments will tend to bring the shrinkage in imports just mentioned. In contrast, a country that imports food-stuffs and raw materials while exporting high-grade finished products may find it difficult to readjust its balance either by expanding its exports or by reducing its imports.⁶

Ease of restoration of equilibrium as related to the magnitude of the disturbances. The restoration of equilibrium in the balance of payments may be easily and swiftly achieved when the disturbing forces are relatively small and temporary in nature. In the absence of wars and acute, prolonged depression, disturbances, though constantly appearing, are in fact small, and restoration of equilibrium occurs smoothly and successfully. In contrast, in the face of powerful and continuous disturbances of the sort arising from war debts, war indemnities, and severe depressions, the corrective forces that successfully restore equilibrium under ordinary circumstances are unequal to their task. This fact is well illustrated by the difficulties which arose in connection with the reparations transfers and the breakdown of the gold standard after 1929.

A comparison of the speed of readjustments arising out of spontaneous causes with the rapidity of readjustments arising out of gold movements. Spontaneous causes tending to restore equilibrium in the balance of payments arise out of the transference of purchasing power from the debtor to the creditor country. This transference occurs in the form of a reduction of incomes of persons living in the country experiencing the unfavorable debt balance (whether it arises from a failure of exportable crops, from an expansion in foreign lending, or an increased volume of imports). On the other hand, persons living in the country having a favorable debt balance will find their incomes somewhat in-

⁶ Cf. F. W. Paish, "Banking Policy and the Balance of International Payments," *Economica*, November 1936, pp. 413-422. He points out that countries whose imports are largely marginal or which have a "high marginal propensity to import" are likely to be producers of raw materials. Such countries tend to adjust their trade balance easily. Advanced industrial countries, on the other hand, have a "low marginal propensity to import" and do not adjust so easily. If the latter countries are also international banking centers, the strain on their monetary structure may be eased by an inflow of foreign-owned short-term balances. For a statement of the problem of adjusting merchandise movements to re-establish equilibrium in the balance of payments, see Viner, *Studies in the Theory of International Trade*, pp. 307-311. Also see a series of articles by B. Ohlin and J. M. Keynes on the German Reparations transfer problem, which appeared in the *Economic Journal*, Vol. XXXIX, 1929.

creased. This increase appears either with or without the movements of gold.

Altogether, there is a rather formidable array of factors tending to restore the basic equilibrium of cost and price levels among the countries of the world by the transference of purchasing power among countries whose balance of payments is not in equilibrium.⁷ Because of their immediate and direct effect upon incomes within the countries whose balance of payments is disturbed, these spontaneous forces act without delay to promote a restoration of equilibrium. It is the prompt results that may be expected which make the spontaneous correctives significant.

In contrast, the corrective forces, other than the spontaneous ones, released by international gold movements operate indirectly and with much less promptness. Except for the spontaneous results, to be effective gold movements must cause some change in the rate of interest. A rise in the interest rate inside the debtor country tends to attract short-term capital and minimizes the outflow of gold during the time required to carry through the longer process of a shrinkage of business activity and prices. The relative slowness of readjustments arising from gold movements points to two possible though very different conclusions. The first conclusion, frequently heard since 1931, holds that an international gold standard can hardly be maintained in times of severe dislocations in the balance of payments, for gold movements required during the slow and painful process of readjustment must become unbearably burdensome to debtor countries. The second conclusion is quite the opposite in tone. It holds that the successful operation of the gold standard over long periods in the past shows that spontaneous correctives must have been operating powerfully enough to preserve equilibrium without any great assistance from discount rate changes growing out of gold movements.

Maintenance of international equilibrium without changes in the discount rate. In support of the view that spontaneous causes play a much more vital part in the maintenance of international equilibrium than has been commonly credited to them, one may cite the practices of some central banks before World War I, when successful adherence to the gold standard was achieved without

⁷ Cf. Angell, *Theory of International Prices*, Chapter XVI.

resort to frequent or corrective changes in discount rates. For instance, both the National Bank of Belgium and the Bank of France appear to have paid little attention to gold movements in the determination of their discount policies.⁸ Furthermore, a stable discount rate policy was at one time adopted by the Bank of England, which, during much of its history, has provided a most illustrious example of the use of a changing discount rate to protect gold reserves and to maintain equilibrium in the balance of payments.

The compulsion felt by the Bank of England to manipulate the discount rate as a means of protecting its gold reserve may be understood in the light of London's position as an international money center. Foreign banks found it both convenient and profitable to carry large amounts of funds deposited in London banks and invested at short term in the London money market. The profitableness of leaving these funds in London depended upon the interest rate there as compared with rates at home. By changing its discount rate, the Bank of England was able to influence the rate of interest earned by these foreign-owned balances, and therefore could use its discount rate policy to control the volume of short-term funds which foreigners would place in the London money market. Carrying relatively small gold reserves, the Bank of England quite naturally adopted the discount rate as the surest and most convenient method of protecting its balance of payments from excessive gold drains arising from the removal of short-term balances. Furthermore, because of London's powerful place in the international long-term loan market, the British balance of payments was exposed to the irregular and uncertain pressure which arose out of any sudden expansion in the volume of long-term British foreign investments. An increase in the discount rate also helped to ease the pressure from this source by attracting additional short-term funds from abroad. The most powerful threat to the Bank of England's gold reserves came from long- and short-term capital movements, and both of these were subject to control through the discount rate.

The Bank of England, however, did not always follow the policy of exercising control over gold movements by adjusting the dis-

⁸ Cf. Whale, P. B., "The Working of the Pre-War Gold Standard," *Economica*, February 1937, p. 20.

count rate. During the periods 1891-1893 and 1901-1915, to avoid disturbing the domestic money market, it repeatedly resorted to changes in the price of gold while allowing the discount rate to remain unchanged. In addition, it was able to use this method to supplement the bank rate and to control gold movements when the bank rate was ineffective owing to the Bank's being out of contact with the market. The method of controlling gold movements by changing the price at which gold is bought and sold may best be understood if one keeps in mind that, so long as British currency was unquestionably redeemable in a certain amount of gold, movements of gold to and from England were determined on the basis of profit. Any changes in the cost of importing or exporting gold, therefore, influenced gold movements. For example, when the current rates of interest in London were such that foreign funds were just on the margin of indifference in respect to moving into London, any drop in the cost of importing gold, any bonus offered for gold imports, would tip the balance, and gold would move to London. Similarly, if at current rates of interest short-term capital were just on the margin of leaving London in search of greater earning power in other markets, any hindrance which increased the cost of exporting gold would prevent the outflow.⁹

The success attained by the Bank in its efforts to control gold movements by changing its buying and selling price for gold rested largely upon the sensitivity of short-term capital to oppor-

⁹ The Bank of England had two ways in which it was able to lessen the cost of importing gold. First, although it had the statutory duty to purchase standard gold bars ($11\frac{1}{2}$ fine) at £3 17s. 9d. per ounce, it might when it chose pay a higher price. By paying this higher price, the Bank granted a bonus or subsidy to the gold importers. Second, the Bank could reduce the cost of importing gold by making advances to banks, without interest, against gold in transit. This relieved the importing bank of the cost involved in the loss of interest on gold in shipment.

By changing its selling price, the Bank was able to impose restraint upon gold exports. The law required the Bank to redeem its notes in gold coin, the equivalent of £3 17s. 10½d. per ounce of standard gold. For the convenience of the purchasers of gold for export, the Bank commonly sold gold in the form of gold bars or gold coin of the country to which the gold was to be shipped. But if it wished to place a barrier in the way of gold exports, the Bank could stand upon its legal rights of redeeming its notes in standard British sovereigns. To escape the added cost of converting British coin into bars or into foreign coin, the exporter would prefer to pay a premium for such bars or coin. By raising its selling price on standard gold bars and foreign coin, the Bank increased the cost of gold export. The maximum recorded price charged by the Bank for standard gold bars was £3 18s. 1d. per ounce on sales made in November 1892, and September 1906. (Sayers, R. S., *Bank of England Operations, 1890-1914*, London, P. S. King & Son, Ltd., 1936, p. 82.)

tunity for profits. For example, whenever the Bank was maintaining its buying and selling price for gold at a high level, with no change in interest rates, it became worth while to acquire and hold London funds and speculate on the almost certain prospect that a dearer pound and a lower price of gold, corresponding to the statutory price, would presently appear.

The experience of the Bank of England, when it successfully controlled the movements of short-term capital and gold without relying upon changes in the discount rate, throws some light upon the strength of the spontaneous forces that operate in the interests of international equilibrium. Modest changes in the buying and selling price of gold, while exercising control over gold movements arising from the sensitive shifts in short-term capital, could hardly have been of any substantial short-run influence upon the other basic items comprising the British balance of payments. The success with which the Bank of England was able to pursue a stable discount rate policy during the above-mentioned periods may be taken to indicate that the spontaneous forces operating to establish and maintain equilibrium in the balance of payments are more powerful than is sometimes believed. This is further fortified by the experience of other central banks that were not confronted with the problem of large foreign-owned short-term funds, but which succeeded in remaining on the gold standard for long periods without frequent corrective adjustments in the discount rate.

The importance of powerful spontaneous correctives when exchange rates are fixed, as under a world gold standard. One of the most serious criticisms made of the international gold standard was the necessity for gold to move and for corrective changes in discount rates to occur in order that correctives for disequilibria might be forthcoming. Such changes clearly involve changes in business activity, prices, and employment. In a world become sensitive to the great importance of economic stability, an international financial system that relies for its operation upon frequent reversals in the direction of business activity seems intolerable. It is argued that in such a system, gold movements must be permitted to exercise their full effect upon the volume of credit and currency. Thus, the export of gold must lead to a reduction in credit and currency by an amount equal to the appropriate multiple set by banking reserve ratios. The import of gold must be

followed by a corresponding multiple expansion of credit and currency. The rules of the gold standard game must be adhered to lest the whole system collapse. Offsetting, stabilizing, and gold-sterilizing activities of central banks cannot be tolerated if the gold standard is to work.

The existence of powerful spontaneous correctives, however, changes the picture greatly. No longer need it be argued that the restoration of equilibrium, once it has been disturbed, requires gold movements and multiple changes in the volume of currency and credit based upon the gold. To a very considerable extent we may expect that the transfer of purchasing power, part of which may arise directly out of gold movements, provides powerful correctives. To the extent that this is so, multiple credit expansion upon the basis of gold imports is not only unnecessary but also undesirable. Some absorption of gold imports by the central bank in order to prevent such multiple credit expansion need no longer be considered a sin against the gold standard but a positive virtue. In other words, not all actions of central banks in the interest of internal stability need be considered directly in conflict with the international gold standard.¹⁰

This same analysis applies even more significantly to attempts ultimately to establish a workable system of stable exchange rates through the International Monetary Fund. Once equilibrium is actually achieved, spontaneous forces should assist greatly in maintaining equilibrium conditions so that the shifting of international currency reserves, including gold, may not be required to impose changes in monetary and credit conditions in the countries concerned.

The necessary causal sequence resulting in international capital movements. A difference of opinion exists as to the proper and necessary sequence of events which lead to a net unilateral capital transfer of any magnitude. The classical theory of international trade stresses the manner in which the appearance of net foreign lending leads to the development of the appropriate volume of net commodity exports needed to effect the capital transfer. Gold movements, price adjustments, and transfer of purchasing power combine to accomplish the desired results. A different view, however, is held by those who believe that foreign lending (or

¹⁰ Cf. Whale, P. B., "The Working of the Pre-War Gold Standard," *Economica*, February 1937.

other unilateral transfers) can be carried through successfully only when the lender has already developed a favorable balance of payments sufficient to provide foreign claims equal to the transfer.¹¹ This viewpoint is ably presented in the quotation that follows:¹²

If a country has a favorable balance of payments on current account its nationals can lend abroad to the extent of this favorable balance without causing any drain upon its gold reserve. If, however, it has no favorable balance on current account, or if its nationals in fact lend abroad to an extent larger than its favorable balance, its gold reserve will be depleted. Within reasonable limits and for a reasonable time there may be no objection to this. It may indeed happen that a country possessing an exceptionally heavy gold reserve may be positively anxious to see it reduced to smaller dimensions. In such circumstances it will welcome a tendency for its nationals to lend abroad to an extent greater than its favorable balance on current account. But a persistent outflow of gold would be unwelcome to a country whose gold reserve is already no larger than it desires normally to retain. To avoid such a persistent outflow it is essential that its net foreign lendings should be kept within the limits of its favorable balance of payments on current account. This is what is meant by the common dictum that a country's capacity to lend abroad is limited by its export surplus.

The position taken by the writers of the report from which the above quotation is made resembles rather closely that of Continental economists, who generally refuse to accept the classical theory of international trade. Their reasons for taking this position, however, are somewhat different. The Continental economists hold that automatic corrections in the balance of payments do not necessarily follow disturbances to equilibrium. Therefore, outside controls must be imposed upon the transactions entering the balance of payments in order that equilibrium may be maintained.¹³ The writers of the report just quoted accept the possibility that an adjustment may be reached but fear that it will take the form of gold exports, tighter money rates, depression, and a decline in imports instead of an expansion in exports.

¹¹ See Viner's discussion of the Keynes-Ohlin controversy on the question of the transfer of Reparations payments in *Studies in the Theory of International Trade*, pp. 307-321.

¹² *The Problem of International Investment*, a report by a study group of members of the Royal Institute of International Affairs, 1937, p. 55.

¹³ Angell, *The Theory of International Prices*, pp. 368-369, 399.

Questions for Study

1. In a world of exchange controls and inconvertible paper currencies, why is it useful to understand the principles of gold standard international equilibrium?
2. What are some common causes for disequilibrium in the balance of payments? What sort of disturbances are likely to create serious difficulties? What sort are unlikely to cause much trouble?
3. What are the objections to the classical explanation of the restoration of equilibrium through gold movements?
4. What are the *spontaneous* forces referred to in the text? Why will a favorable balance increase the purchasing power within a country? Why will an unfavorable balance reduce purchasing power?
5. If a favorable balance causes an increase in purchasing power, how will it affect (a) business activity, and (b) demand for imports? Why may corrective effects appear without price level changes?
6. Trace the manner in which a loss of gold will aid in correcting an adverse balance of payments in a country like England. What are *equilibrating* short-term capital movements?
7. a) Why may gold movements sometimes fail to result in genuine corrections?
b) What effects result from central bank *offsetting* actions?
c) Why will higher discount rates be ineffective in stopping a flight of capital?
8. Under the international gold standard, or other system of stable exchange rates, why is it important that correctives work quickly?
9. What circumstances make for ease in corrective action? When are corrections in the balance of payments relatively difficult?
10. Of the two types of correctives discussed, which would appear to operate more promptly?
11. Of what significance is the experience of the Bank of England when it protected its gold supply by varying the price of gold rather than by the use of the discount rate?

International Price Relationships Under Inconvertible Paper Currencies

IN THE PRECEDING CHAPTERS WE HAVE EXAMINED THE CONDITIONS necessary for international equilibrium under the gold standard. When the several currencies are convertible into a given quantity of gold, the rates of exchange are rigidly held within the narrow limits of the gold points. Disequilibria in the balance of payments must be corrected by adjustments in the internal price and cost structures.

The maintenance of equilibrium with pure paper currencies. When inconvertible paper currencies are used, the equilibrium in the balance of payments may be restored and maintained by changes in foreign exchange rates, changes in prices, or both. Unlike the gold standard; pure paper currencies provide no gold points. Under pure paper currencies, therefore, the rates of exchange may vary widely in response to the changing forces of supply and demand. For example, if a country on a pure paper standard were to have an unfavorable debt balance, the price of foreign exchange would rise as under the gold standard. But whereas under the gold standard a limit to the increase in foreign exchange rates is set at the gold export point, under inconvertible paper no such limit exists. Instead, an unfavorable debt balance in a country using inconvertible paper currency must cause such a rise in foreign exchange rates that the supply of foreign bills will equal the demand for them.

Before going further, it is necessary to recall that although an approximate equilibrium in a country's balance of payments for

such a period as a year's time may easily come about, such an equilibrium cannot be expected for any given day or even for any single season. Obvious difficulties would accompany any attempt to equalize the basic debit and credit items in the balance of payments for a short period. For example, American exports of agricultural products have tended to be concentrated largely in the autumn and early winter. During this season the balance of payments is favorable, and it becomes unfavorable during other seasons when an excess of imports appears. Under the gold standard, no consequences attach to these seasonal disturbances to the balance of payments so long as they eventually cancel out. The day-by-day and the seasonal inequalities between debit and credit items are smoothly cared for by the movement of short-term capital. Such capital moves from the creditor to the debtor country in response to small changes in discount rates or, regardless of discount rate changes, to obtain a profit by buying foreign exchange cheap and selling it dear. But with inconvertible paper currencies, much less opportunity exists to offset short-term and seasonal inequalities in debits and credits in the balance of payments. Dealers in foreign exchange who would quickly transfer short-term capital to fill the gap under the gold standard will be much more reluctant to take such a step under inconvertible paper currencies because of the other forces that may cause entirely unpredictable fluctuations in the exchange rates. The purchase of foreign exchange when a current favorable balance makes it cheap involves vastly greater hazards when currencies are inconvertible paper than when the gold standard provides a point of certain reference in the form of gold parities. Under pure paper currencies, therefore, an equality in the balance of payments during a season when exports normally exceed imports requires a fall in the foreign exchange rate until one of two results occurs. First, the rate may decline to a point where speculative purchases of foreign exchange will become numerous enough to take off the market the excess supply of foreign bills. Second, if speculative buyers do not appear in sufficient numbers to absorb the supply, the foreign exchange rate must fall until exports are reduced and imports increased to the point of equality. It follows, therefore, that regardless of the existence of equilibrium in the annual balance of payments, inconvertible paper currency requires marked seasonal and daily fluctuations in exchange rates to provide the

necessary short-run equilibrium.¹ This in part explains the need for stabilization fund operations by government agencies to provide short-run exchange stability for paper currencies.

Over a period of time sufficient to average out seasonal and irregular fluctuations, exchange rates between paper standard countries must adjust themselves so as to provide equilibrium in the balance of payments of each. An unfavorable balance of payments causes foreign exchange rates to rise appropriately, whereas a favorable balance causes them to fall. A fall in the foreign exchange value of a country's currency tends to stimulate exports by making them cheaper to foreign buyers. In addition, it makes importing more costly. Thus, eventually, an adverse balance of payments should induce a sufficient fall in the value of a country's currency in the foreign exchange markets as to restore equilibrium. The same holds true in the opposite direction, when a country has a favorable balance tending to cause the foreign exchange value of its currency to rise. This rise introduces the proper correctives by checking its exports and encouraging its imports.

An example may help in understanding the effects of changes in exchange rates on a country's exports and imports. When the exchange value of the pound was \$4, British goods, because of high domestic prices, were difficult to sell abroad and Britain's balance of payments tended strongly to be adverse. But when the pound was reduced to \$2.80, British exports, in terms of current prices, were correspondingly cheaper for Americans. At the same time, British imports from the United States were correspondingly more costly. Consequently the cheaper pound has tended to aid in the restoration of equilibrium in the British balance of payments by somewhat stimulating exports to and reducing imports from the Western Hemisphere. Whether an expansion of exports or a fall in imports has the more influence cannot easily be determined. Nevertheless, the corrective force of the cheaper pound is undeniable.

When the exchange rate between paper standard countries is not one that provides equilibrium in the balance of payments, two results may occur. First, as we have already noted, the rate of exchange may shift to a point which satisfies the requirements

¹ Cf. Keynes, J. M., *Monetary Reform*, New York, Harcourt, Brace & Co., 1924, pp. 116-125.

of equilibrium. Second, internal prices within the countries concerned may move to levels that provide equilibrium at the ruling exchange rates. Because of their flexibility under paper standards, exchange rates are more likely to make the adjustment than are the price levels. Furthermore, one of the advantages commonly advanced for inconvertible paper currencies and free exchange rates is the ease and rapidity with which exchange rates can adjust themselves to restore equilibrium in the balance of payments once it is disturbed. This is in marked contrast to the slow and sometimes painful adjustments of cost and price levels required under the gold standard.

PURCHASING POWER PARITY THEORY OF EXCHANGE RATES

We have already seen that under pure paper currencies there is some equilibrium rate of exchange that tends to maintain a balance of payments between the countries involved. From our analysis it clearly appeared that this rate is one that equalizes the various import and export transactions in the light of the ruling price levels. It naturally follows that some attempt should be made to explain this equilibrium rate of exchange in terms of the levels of prices. The *purchasing power parity* theory of exchange rates is an attempt specifically to relate the rate of exchange to the price level.²

The argument upon which the purchasing power parity theory rests is the very sensible one that people primarily want foreign money because of the purchasing power which it has in that foreign country over commodities, services, and so forth. When one offers his own money in exchange for foreign currencies, he is offering to give up buying power over commodities at home in exchange for buying power over things abroad. Therefore, one's valuation of foreign currencies in terms of one's own primarily rests upon the relative purchasing power of each currency in its own country.³ This leads to the obvious conclusion that the rate

² Professor Gustav Cassel is mainly responsible for the development and exposition of this theory in present-day economic literature. For a statement of his view, see his *Money and Foreign Exchange After 1914*, New York, The Macmillan Co., 1922, pp. 137-162.

³ Cf. Cassel, *op. cit.*, pp. 138-139. For criticisms of the purchasing power parity theory, see Haberler, Gottfried von, *International Trade*, New York, The Macmillan Co., 1936, p. 32; Viner, Jacob, *Studies in the Theory of International Trade*, New York, Harper & Bros., 1937, pp. 379-387; and Ellis, Howard, *German Monetary Theory, 1905-1933*, Cambridge, Harvard University Press, 1934, Part III.

of exchange depends upon the relative price levels and may be expected to vary with changes in these price levels.

The calculation of purchasing power parity exchange rates. The true normal or equilibrium exchange rate between countries cannot be calculated directly by comparing the buying power of a unit of domestic currency over a representative list of commodities and services with the buying power of a unit of foreign currency over a similar list. To calculate the importance or value of a unit of foreign currency for buying foreign goods to be brought back to one's own country, one must allow for all the costs of transferring the goods, such as import duties, freight, and other shipping expenses. These costs differ from commodity to commodity, and appropriate allowances for these costs would be next to impossible to make. Of still greater importance is the fact that most commodities move in but one direction, so that a comparison of prices of any given group in the two countries would have little significance. Prices of commodities exported from the United States to England must have a price in England, calculated at the ruling rate of exchange, sufficiently above the price here to pay the costs of transfer. The same rule applies to prices of goods moving from England to the United States. The purchasing power parity rate, if it be considered an equilibrium rate of exchange, is merely one at which the *total value* of everything bought from the rest of the world by the United States is equal to the *total value* of everything sold to the rest of the world. The money value of any particular bill of goods at home and abroad cannot possibly give a valuable clue to the equilibrium exchange rate.

Gustav Cassel, a leading proponent of the theory, attempted to calculate the purchasing power parity rate indirectly. He assumed that during some normal period, usually after the gold standard has been in operation for a time, the rate of exchange actually ruling is the purchasing power parity rate for the price levels that exist in the countries involved. For example, before World War I, mint par of exchange between England and the United States was £1 = \$4.86, a rate which may be taken as the purchasing power parity for the ruling price levels at that time. After the gold standard was abandoned, if the price level in England had doubled although that of the United States had remained unchanged, the relative purchasing power of the pound would

have declined by one-half, and the rate of exchange, purchasing power parity, would then stand at £1 = \$2.43. To calculate purchasing power parity, therefore, the price levels for the normal period should be taken as a base (that is, 1913 = 100 in each country). The rate of exchange in this normal period is multiplied by the ratio of the price indexes for each country at the date for which the new equilibrium rate of exchange is to be calculated, and the result is the purchasing power parity rate. Thus, to use our previous example, if the old rate of exchange in 1913 was $\frac{£1}{\$4.86}$ and the ratio of prices in the two countries had shifted to $\frac{200}{100}$, purchasing power parity would have been $\frac{£1}{\$4.86} \times \frac{200}{100}$, or $\frac{£1}{\$2.43}$.

Criticisms of Cassel's method. Although Cassel's method for estimating purchasing power parity is obviously a handy scheme for obtaining a general idea of the equilibrium rate, its accuracy may be seriously questioned. Objection to this method of calculation may be made on several grounds.

1. Price indexes upon which the calculation is based must be representative of costs and prices of things that move in international trade. For this reason, indexes of wholesale prices seem more suitable than general price indexes. But a good deal of dispersion among individual price movements accompanies changes in average wholesale prices, and there is no way of knowing the extent to which prices of particular goods entering foreign trade move in harmony with the general average. To the extent that costs and prices of goods that are important in foreign trade move differently from the average shown by the index, the calculated results are invalid. For example, let us suppose cotton to be the principal export of country *A*, in which the index of general prices has risen 20 per cent. If new and more economical methods of growing cotton have been developed during the period, cotton prices might remain stable in the face of increases in other prices. A calculation of purchasing power parity based upon the general price index would "undervalue" or place too low a foreign exchange value upon the currency of country *A*; for so long as the price of cotton, the principal export, is unchanged, the for-

cign exchange value of country *A*'s currency will be unchanged. Furthermore, the relative importance, and therefore the weights, of different commodities included in the domestic price index may be quite different from their relative importance in foreign trade.

2. The method of calculation proposed by Cassel is based upon the old rate of exchange, which is assumed to be normal for the base-year price levels. But the correctness of this exchange rate is dependent upon conditions existing at the time in respect to the type and relative amounts of the commodities moving in international trade. During the interval of time between the base year and the year for which the calculation is made, marked changes in the types of such commodities are likely to occur. New products appear, tastes change, and competition from other countries may seriously modify the terms of trade. Especially is this objection a serious one when the base year is remote. Moreover, if the cost of transfer between countries has changed between the base year and the calculated year, the calculation will be inaccurate.

3. The exchange rate for the base year, assumed to be the equilibrium rate, was one that permitted a favorable trade or merchandise balance for capital-exporting countries. Any substantial change in the nature of international capital movements, therefore, would lessen the validity of the calculated rate. For instance, during the period 1924-1928, the annual net export of long-term capital by the United States averaged about \$650,000,000. In 1930 it had declined to \$290,000,000. The ruling exchange rate during the 1924-1928 period must have been roughly equal to purchasing power parity, taking into account the annual export of a substantial amount of long-term capital as represented by our net security purchases from abroad. Unless offset by an increase in export of short-term capital, the sudden decline in our long-term foreign lending in 1930 required as an offset an increase in imports or a decline in exports. Unless prices in the United States increased relatively, foreign exchange rates would have to fall if the rate of exchange is to become true purchasing power parity under the changed conditions of American long-term foreign lending. An even better example is that of postwar England. Clearly, as a result of the sharp decline in her "invisible exports" arising from the loss of much of her foreign investments

during the war, it is necessary for her to expand her commodity exports compared to her imports if she is to bring her balance of payments into equilibrium. This calls for a pound that is cheaper in foreign exchange markets than is indicated solely by the calculation of purchasing power parity based upon prewar conditions.

The practical importance of purchasing power parity calculations. In spite of the difficulties that accompany attempts to calculate the equilibrium or purchasing power parity rate of exchange between paper standard countries, there are times when such a calculation may be of practical value. In times of unstable and fluctuating exchange rates, it provides a rough measure of the extent to which the actual rate deviates from the equilibrium rate. When postwar exchange rate stabilization is undertaken the calculation of purchasing power parity provides a most important point of departure for the determination of the proper rates to be adopted. This is especially true when internal price inflation has been a predominant cause of exchange rate instability. Even though such calculations are but crude indicators, they provide a way to arrive at specific conclusions as to the general location of the appropriate rates.⁴

The price index best suited for calculating purchasing power parity. There are some who advocate the calculation of purchasing power parity solely upon the basis of prices of commodities which actually move in international trade. But such a calculation would be of little value. With any given rate of exchange, the market prices of commodities that move freely in international trade differ in the several markets by no more than the cost of transferring or shipping them from one place to another. With allowance for the time involved in arbitrage transactions by traders, the relative prices of such goods in different countries must always reflect the existing rate of exchange. Therefore, a calculation based upon index numbers of prices of these goods alone must always show that the ruling rate of exchange is the true equilibrium rate. Such a calculation is further invalidated by the fact that changes in the relative prices would not necessarily

⁴ Cf. Young, J. P., "Exchange Rate Determination," *American Economic Review*, September 1947, p. 594. Also see Haberler, G., "The Choice of Exchange Rates After the War," *American Economic Review*, June 1945, p. 311.

cause *proportional* changes in the equilibrium rate of exchange, because other goods previously unable to move in international trade would begin to do so.⁵

The ideal price index for calculating the purchasing power parity rate of exchange is one comprised of the prices of the factors of production involved in the making of goods actually entering or on the margin of entering international trade. The value of such an index of prices rests upon the fact that the consideration which in the last analysis determines whether or not a commodity will move in international trade is the cost of production at home, including transfer costs, compared to its price abroad calculated at the current rate of exchange. If the price realized on exports is less than the price of their factors of production, exports will shrink. If the price realized on exports is greater than the price of the factors involved in their production, exports will expand. If, therefore, at the ruling rate of exchange exports so languish that they are less than imports and a country experiences an unfavorable balance of payments, the domestic currency is said to be "overvalued" in the foreign exchange markets. Foreign exchange rates are too low and must rise to provide an equilibrium. On the other hand, if at the ruling rates of exchange exports flourish and so outrun imports as to provide a country with a favorable balance of payments, the domestic currency is "undervalued" in the foreign exchange markets, and foreign exchange rates must fall to provide equilibrium.

It is quite impossible, however, to procure an index of "efficiency wages" of the factors of production used in each country to produce commodities that move in international trade. Indexes of the cost of living are sometimes used in the calculation of purchasing power parities in the belief that they reflect, more nearly than do wholesale price indexes, the changes in fundamental costs of production. Probably general wholesale commodity price indexes, however faulty for the purpose, provide the most practical basis available for calculating purchasing power parity.

Deviations from the true equilibrium exchange rate. Disturbances in the balance of payments occurring under the gold standard are evidence that the actual rate of exchange is sometimes not

⁵ Cf. Keynes, *Monetary Reform*, pp. 100, 382-383.

the true equilibrium rate. Such a situation calls for a correction in the cost and price structures of the countries involved. Similar disturbances occur under inconvertible paper currencies. The forces that commonly create disequilibrium in the balance of payments of a paper standard country include the following: (1) changes in the level of prices relative to prices abroad; (2) changes in the demand for specific commodities moving in international trade; (3) changes in the costs of transferring goods from one country to another, particularly changes in import duties; (4) changes in the direction and magnitude of long-term capital movements and unilateral transfers, such as war indemnities; (5) short-term capital movements. Each of these forces is a familiar cause of disequilibrium under the gold standard. One important difference exists, however, in the part played by short-term capital under the two standards. Unlike sound gold standard currencies, pure paper currencies are exposed to severe short-term capital movements of a speculative nature, which introduce highly unpredictable, uncontrollable, and violent disturbances in the balance of payments. For this reason, exchange rates under inconvertible paper currencies are likely to deviate sharply from the equilibrium rate much more than are exchange rates under the gold standard. A paper standard currency, therefore, may readily become either overvalued or undervalued in terms of foreign currencies, depending on whether its value is greater or less than what it should be at the true equilibrium rate.

Corrections when the actual rate deviates from the true rate of exchange. Whenever a country's currency becomes "overvalued" in terms of foreign currencies, its exports tend to decline and its imports are stimulated. The opposite results arise from undervaluation. For example, let us assume that £1 = \$3 represents the true equilibrium rate, but that the actual rate stands at £1 = \$2.80. Whereas \$3 should be required to buy £1, it now takes but \$2.80. Pounds are therefore at a bargain (that is, are undervalued), while dollars are too dear (that is, are overvalued). Pressure in the United States to buy cheap pounds will tend to force up the price of pounds in terms of dollars, and reluctance in England to buy dollars will cheapen American currency. Whenever the actual rate deviates from the equilibrium rate of exchange, natural economic forces tend to bring a correction.

Whenever the rate of exchange is free to move toward the true equilibrium rate, prompt adjustment tends to occur through a change in the exchange rate and with but little effect upon the internal price structures. It is for this reason that the advocates of managed paper currencies contend that without the gold standard it becomes possible to regulate and control the internal price level of a particular country without reference to the behavior of prices abroad. But sometimes paper currency exchange rates are not merely the passive reflection of the respective price levels within the countries concerned. Instead, the forces operating against the exchange rates may be continuous and powerful enough to overcome the natural tendency of the rate to return to normal. Under such circumstances, the adjustment may come about by a change in the price levels. The persistence of the forces creating disequilibrium in the balance of payments has led some to believe that natural forces cannot be relied upon to maintain equilibrium. This belief is embodied in the "balance of payments" theory of exchange rates.

THE BALANCE OF PAYMENTS THEORY OF EXCHANGE RATES

Purchasing power parity theory of exchange rates. We have already examined the theory that exchange rates under inconvertible paper currencies are determined by purchasing power parity or by the relative price levels in the countries concerned. If at any particular time the actual market rate of exchange deviates from the true equilibrium rate, the market rate tends to move in the direction of the equilibrium rate. The best calculation that can be made of the equilibrium rate is that based on the relative changes in internal price levels of the two countries. A fall in the value of a country's currency in the foreign exchange market is therefore explained by a rise in that country's price level relative to prices abroad. Internal currency inflation, therefore, explains a fall in foreign exchange value of this currency. Since budgetary deficits tend to lead to inflation of prices, these deficits are associated with the depreciation of a country's currency on the foreign exchange markets. This explanation is closely related to the quantity theory of money. It is not surprising, therefore, that critics of the quantity theory reject purchasing power parity as an explanation of exchange rates.

The balance of payments theory. The balance of payments theory holds that foreign exchange rates are determined by independent factors not directly related to internal price levels and the quantity of money. Such independent factors tending to cause a rise in foreign exchange rates would include requirements for debt payments, reparations, and an inelastic demand for raw materials needed from abroad. Because they deny that there is any real inter-currency parity corresponding to purchasing power parity, the adherents of this theory reason that causes of changes in exchange rates lie within the forces determining the balance of payments rather than in the internal price levels. They hold that exchange rates reflect rather than influence the balance of payments. Because they deny that there is anything automatic about the maintenance of equilibrium in the balance of payments, they find ample justification for tariffs, quotas, exchange regulations, and other forms of state interference designed to prevent an unfavorable debt balance. This is in sharp contrast to the conventional quantity theory view that equilibrium is automatically re-established either by an adjustment of price levels if under the gold standard, or by an adjustment of exchange rates if off the gold standard.⁶

Closely allied with the balance of payments theory is the view held by some students of the acute inflation experiences in Germany, France and Austria following World War I. They believe that exchange depreciation of those times originated in forces that operated directly against the exchange rates, and that this caused rising internal prices and an expansion in the quantity of money. Thus, it has sometimes been held that the line of causation advanced by the purchasing power parity theory was actually reversed. It cannot be denied that in the later stages of inflation in Germany, in 1923, and in France, in 1926, the evidence supports the view that exchange depreciation, arising from capital

⁶ Cf. Angell, James W., *Theory of International Prices*, Cambridge, Harvard University Press, 1926, pp. 331-333 and Haberler, *International Trade*, p. 31. For a detailed examination of the "balance of payments" theories, see Ellis, *German Monetary Theory, 1905-1933*, Chapter XIV. Throughout the period of postwar inflation in Germany, the Reichsbank, the government, the bankers, the industrialists, and the press insisted that the depreciation of the mark was caused by the state of the balance of payments. Cf. Costantino Bresciani-Turroni, *The Economic of Inflation*, London, G. Allen & Unwin, 1937, pp. 42-46.

flight which caused a serious adverse balance, preceded the rise in the price level. Under these extreme conditions exchange rates were dominated by capital flight rather than by the relative degree of inflation within the country. The movement of exchange rates was persistently away from rather than in the direction of an equilibrium position and price movements seemed to follow and to be the result of changes in the exchange rates rather than causes of such changes.⁷

A contemporary application of the balance of payments theory has appeared in the discussions of the dollar shortage of England and Western Europe since World War II. The statement is frequently heard that the dollar shortage is something unique, arising out of profound technological and social change, and that it is in no way amenable to solution along the lines of exchange rate adjustment toward an equilibrium level. The devaluation of the pound, it is argued, cannot possibly assist in the correction of the British adverse balance of payments because of the inelasticity of demand for both British exports and British imports. There seems to be little justification for such an extreme position. To be sure, a sufficient devaluation of the pound to bring the British balance of payments with the Western Hemisphere into equilibrium might well involve considerable sacrifice of highly desirable imports and result in a considerable reduction in living standards. Furthermore, it is entirely possible that a more palatable short-run solution might be found in a continuation and expansion of exchange controls. Even so, there is little justification for the contention that exchange rate changes cannot correct an adverse balance of payments that is protected from the disturbances of capital flight.

Questions for Study

1. Why do free exchange rates with inconvertible paper currencies provide a more rapid and less painful way to correct an unfavorable balance than could exist under the old gold standard?

⁷ See F. W. Graham's *Exchange, Prices and Production in Hyper-Inflation, 1920-1923, 1930*. Also see Eleanor L. Dulles, *The French Franc, 1914-1928*, New York, The Macmillan Co., 1929, and J. H. Rogers, *The Process of Inflation in France*, New York, Columbia University Press, 1929.

2. Why are inconvertible paper exchange rates less effective in caring for seasonal and irregular variations in the balance of payments than was the gold standard?
3. What is meant by an *equilibrium rate* of exchange?
4. How can purchasing power parity be calculated? Why must it start with some period of equilibrium?
5. Give the reasons why calculations are not likely to give an accurate measure of the true equilibrium rate of exchange?
6. If calculations of purchasing power parity are likely to be inaccurate, to what practical use, if any, can they be put?
7. Why would a calculation of purchasing power parity based upon changes in the market prices of internationally traded goods tend to show that any existing exchange rate is an equilibrium rate?
8. When actual exchange rates deviate from the true equilibrium rate the result may be to *undervalue* or to *overvalue* a given currency. What does this mean? What are the effects of undervaluation and overvaluation?
9. What is the balance of payments theory of foreign exchange rates? How does it differ from the purchasing power parity theory?

Controlled Exchange Rates

Control under the gold standard. At first sight, foreign exchange rates appear to be determined simply by the law of supply and demand, without the use of artificial controls. Especially does this appear to have been true in times when the international gold standard was in operation. As a matter of fact, however, a considerable degree of control over exchange rates, or the forces determining them, existed under the gold standard. For example, one well-established principle of central bank management under the gold standard was the control of credit and interest rates so as to keep exchange rates within the gold points. We have already had occasion to examine the practices of the Bank of England in this respect. By a change in the discount rates it was able to attract short-term capital, to discourage long-term lending abroad, and to check internal credit expansion at times when an unfavorable balance of payments threatened the country's gold reserves. A spreading of the gold points by modifying the terms upon which it bought and sold gold was also used as a means to prevent gold movements.

An even more positive and conscious control over the forces determining the exchange rates developed during the 1920's, when European countries were re-establishing the gold standard. The monetary uncertainty of the times made it inadvisable to rely too far upon the automatic action of the gold standard to protect gold reserves. Special measures were therefore taken to guard against contingencies that might lead to an unfavorable balance of payments. Careful avoidance of budgetary deficiencies gave assurance against internal inflation. Foreign credits were arranged to meet any adverse balances. Home industry and exports were

encouraged, and central banks followed conservative credit policies.

The world-wide depression that began in 1929 and led to the financial collapse of 1931 saw the introduction of various types of intervention or controls over foreign exchange rates. The purpose of such intervention or control was to hold foreign exchange rates at some point different from the rates that would have existed in a completely free exchange market. Such control efforts included the stabilizing action of central banks and stabilization funds as well as the measures commonly referred to as *exchange control*, by which officially maintained rates of exchange are combined with restrictions on imports, blocked balances, clearing agreements, and the like.

THE PURPOSE OF INTERFERENCE OR CONTROL IN FOREIGN EXCHANGE MARKETS

The purposes behind the different attempts to control foreign exchange rates are by no means identical. To understand the development of this movement toward control, we must first examine the motives responsible for it. These motives fall into three main categories:

1. Control (used in the broad sense of *any* interference in the exchange market) may be designed to offset seasonal, irregular, and speculative influences and to maintain a stable rate of exchange that approximates an equilibrium rate.
2. It may be aimed at bringing about a depreciation of the domestic currency in order to stimulate exports and internal expansion.
3. It may be intended to maintain the exchange value of a country's currency above the equilibrium rate for the purpose of avoiding internal inflation and to improve the "terms of trade" between that country and the outside world.

Maintenance of exchange stability. It is a well-recognized fact that stable exchange rates between countries engaged in trade are highly desirable. Without them the risks of trading become unnecessarily high if not prohibitive. This fact was recognized by the countries comprising the Sterling Bloc after England abandoned gold in 1931. The purpose behind the Sterling Bloc was to provide fixed exchange rates on London.

The degree to which this was accomplished may be seen clearly in the parallel movement of the values of their currencies in terms of gold, as shown in Chart 1, on page 44. The mechanism of control used by these countries was the familiar one used in connection with the postwar gold exchange standard. The central bank of the country exercising exchange control bought and sold sterling bills at the established rate. The appearance of an excess supply of sterling bills was a signal for more lenient internal credit conditions, whereas a shortage of sterling bills and a decline in sterling balances in London indicated a need for domestic credit restriction. The connection between sterling and other currencies was a loose one. Sweden, for example, adopted a rate on London that was considered favorable at the time, but was prepared to allow the Swedish krona to rise in terms of sterling rather than undergo internal inflation.

The need for control to provide exchange stability is especially great in the case of inconvertible paper currencies, which lack the automatic stability provided by the gold standard. Particularly are such currencies exposed to seasonal and speculative influences that must be held in check if wide exchange fluctuations are to be avoided. This need lay behind the establishment, in 1932, of the British Exchange Equalization Account, which bought and sold foreign exchange on gold standard countries for the purpose of maintaining short-run stability of rates.

Sometimes the existence of a powerful trading agency, whether the central bank or a government fund, is insufficient to counteract the effects of capital exports or flight. In such a case more drastic measures are taken. The control agency then assumes control over all exchange transactions. Persons residing within the country are denied the privilege of buying foreign exchange unless they can prove that they will not use the proceeds to purchase foreign securities, foreign money or bank balances, or other foreign capital assets. Such control is commonly used to prevent or to minimize the flight of capital in the face of threatened domestic crisis. Frequently combined with this type of control is the "blocking" of accounts or claims of foreign creditors who are then denied the privilege of transferring out their claims for interest and debt payments. This blocking is done to remove the pressure of these claims from the balance of payments and to

avoid the depressing effect of such claims upon the value of the country's currency in the foreign-exchange markets.

Exchange depreciation to stimulate exports. At times, measures have been instituted to depress the foreign exchange value of the country's currency in order to improve the competitive position of its export trade. It was not until the 1930's that deliberate currency devaluation became common. The depreciation of the Japanese yen provided an early example of this type of action, which was later adopted in one form or other by a number of countries, including the United States.

Beneficial results from exchange depreciation may arise from two causes. First, it is obviously of benefit if it corrects a pre-existing overvaluation. Second, to the extent that it results in actual undervaluation, its benefits depend mainly upon the failure of other countries to take similar action. The gains in exports and in domestic employment resulting from undervaluation arise from the tendency for costs of production to lag and adjust slowly to the depreciation in the exchange value of the currency.

During the depression years of the 1930's, the purpose behind exchange depreciation was mainly to promote domestic employment and higher internal prices through the stimulating effect of expanding exports. In 1949, a very different reason lay behind the wholesale depreciation of currencies. To be sure, the purpose was to attempt to expand exports to the "hard currency" countries of the West, notably the United States. But the hoped for expansion in exports was not desired as a stimulant to domestic employment and prices. Employment in Britain, for example, stood at a high level, and high prices rather than low were the order of the day. The real purpose for the depreciation of the pound was to encourage a diversion of a larger fraction of British industrial output from domestic consumption and from export to other "soft currency" countries to the Western Hemisphere. Only thus could Britain hope to be able to pay for her highly necessary imports currently being paid for through Marshall Plan aid. Unlike the depreciation of the 1930's, the 1949 depreciation was not designed to stimulate domestic employment and prices.

Control resulting in overvaluation. Control measures have been adopted for the purpose of maintaining an established or official rate of exchange in the face of a relative rise in domestic

prices as compared with prices abroad. The resulting overvaluation of the domestic currency in the foreign exchange markets discourages exports, stimulates imports, and leads to the imposition of tariffs and quotas and the establishment of clearing and barter agreements as the natural trade channels break down.

METHODS OF INTERFERENCE AND CONTROL: STABILIZATION FUNDS

The British Exchange Equalization Account. The first formal device established to regulate exchange rates was the British Exchange Equalization Account. After England abandoned the gold standard in September 1931, the pound depreciated rapidly in terms of the gold currencies. From \$4.86 it fell to about \$3.35 in December 1931, or to 69.3 per cent of its gold parity. By April 1932, speculative pressure had pushed the pound up again to \$3.74. To counteract such speculative movements and to stabilize the value of the pound, the British Government in April 1932, established the Exchange Equalization Account. At the beginning, the Account consisted of £150,000,000 in Treasury bills, which could be readily converted into cash balances by sale in the British money market at the wish of the Bank of England, which managed the Account.

The primary purpose of establishing the Account was to stabilize the exchange value of the pound and to prevent either excessive depreciation or excessive appreciation.¹ The general panic that seized the financial world in 1931 brought waves of distrust upon first one currency and then another. As a result, short-term capital shifted rapidly from one money center to another, with consequent pressure upon exchange rates. Whenever a "flight" of capital to London occurred, the exchange value of the pound rose. But a dearer pound increased the difficulties of British exporters and could not be allowed to result from speculative movements of capital. The Account, therefore, stood ready to offset the effect of a flight of capital to London by freely selling pounds and taking foreign exchange instead. When the capital movement to London became pronounced, the Account came into

¹ That some have believed that the Account was used artificially to depress the value of sterling does not alter the fact that its most important function was to minimize exchange speculation. For assurances by an English writer that the Exchange Equalization Account was not used to depress the pound in the interests of British exporters, see Paul Einzig's *World Finance, 1935-1937*, New York, The Macmillan Co., 1937, p. 107.

possession of large amounts of foreign currencies, which were offset by an equal loss in pounds. On the other hand, when capital movements were away from London instead of toward it, the Account checked the fall in the exchange value of the pound by the purchase of pounds and the sale of the previously accumulated foreign exchange.

Since most of the funds acquired by the Equalization Account were in dollars, francs, and other Gold Bloc currencies, it could choose between holding the proceeds in the form of foreign exchange (balances in foreign countries) or converting them into gold. As a matter of fact, the Account did convert a very considerable amount of foreign exchange into gold, which was either earmarked in the foreign country or shipped back to London. In either event, the operations of the Account did not affect the volume of reserves in the British banking system but merely expanded the volume of its deposits. But at times the Account found its supply of available pound balances exhausted because of the limit set by law to the quantity of Treasury bills at its disposal, and it was then compelled to sell some of its gold holdings to the Bank of England to replenish its supply. When the Account made use of the funds acquired by the sale of gold to the Bank to overcome the buoyancy of the pound or to retire Treasury bills, the result was to add to the supply of bank reserves in the country.

When capital, seeking refuge abroad, was moving away from England, the Equalization Account stood ready to purchase pounds and sell foreign currencies. As the Account's foreign exchange supply became exhausted, it was necessary to export gold to replenish its foreign balances. Gold would be exported directly to the United States, or at times it was sold to the Bank of France and the francs converted into dollars through the foreign exchange market, with the burden of shipping gold to the United States falling on France. So long as the Account had on hand an adequate supply of free gold that it could export for this purpose, the British banking system suffered no shrinkage in bank reserves. But sometimes the losses of gold were so severe that the Account's free gold was exhausted and it was compelled to exchange for gold at the Bank of England some of the pound balances it had been acquiring in the support of the pound. The purchase of gold from the Bank diminished the reserves of the

British banking system in a manner similar to the export of gold under the gold standard.

The original £150,000,000 made available to the Account was increased a year later to £350,000,000 and finally to £575,000,000. After the outbreak of war in September 1939, all previous limits on the size of the Account were removed. At the same time, the Account took over the gold holdings of the Bank of England. The expansion in the volume of Treasury bills put at the disposal of the Account enabled it to prevent any marked appreciation in the exchange value of the pound in the face of tremendous movement of capital from the European Gold Bloc countries to London. In March 1938, the combined gold holdings of the Bank of England and the Exchange Equalization Account stood at £836,000,000.

It was not the purpose of the Exchange Equalization Account to maintain the value of the pound at a level inconsistent with basic market conditions. In the face of changing price relationships between England and the outside world leading to a lower or higher equilibrium rate of exchange than that currently ruling, the market rate was permitted to adjust itself. Moreover, the Account did not always attempt to prevent some decline in the pound when heavy capital flight tended to force it lower. A glance at Chart 1, page 44, will reveal that the value of the pound in terms of gold currencies was by no means constant after the Account was in operation.

When war began in September 1939, stronger measures for the control of foreign exchange rates were required. There was instituted at that time direct exchange control, which took the form of the prohibition of the export of capital, the licensing of exchange dealers through whom all transactions had to pass, and an official exchange rate between the pound and other currencies. The Exchange Equalization Account therefore lost its original function in respect to the control of exchange rates. Instead, it has become a fund of foreign currencies, accumulated from various sources, available for use in making properly authorized and approved payments abroad in settlement of public and private transactions.

The American Stabilization Fund. From the profit resulting from the devaluation of the dollar in 1934, the sum of \$2,000,000,000 was set aside to form a Stabilization Fund. The Fund

was patterned somewhat after the British Exchange Equalization Account. The sum of \$200,000,000 was deposited by the Fund in the Federal Reserve Bank of New York and used as an active account through which all of the Fund's operations were conducted. Ever since the establishment of the Stabilization Fund the Treasury has bought and sold gold for exchange purposes. It follows, therefore, that there was little occasion for the use of the Fund for the purpose of influencing foreign exchange rates. The dollar with a *de facto* fixed gold value must necessarily vary in terms of foreign currencies mainly with variations in the price of gold abroad. Naturally enough, the United States Treasury did not see fit to assume the risks of engaging in any heavy purchases of foreign exchange for the purpose of supporting the value of foreign currencies. It, therefore, confined itself mainly to the minor role of secret agent for the import and export of gold. When, for example, the British Exchange Equalization Account sent heavy gold shipments to the United States to obtain dollars in support of the pound, the Stabilization Fund acted as agent in converting the gold into dollar credits. The Fund exchanged such gold for gold certificates, which it deposited in the reserve banks to obtain the required dollars. Likewise, at times when gold movements to the United States were too slow to meet the pressure of capital flight, owing to shortage of shipping facilities, prohibitive insurance rates, and the like, it is probable that the Fund went into the exchange market and purchased foreign currencies for dollars to prevent an undue break in the exchange rates.²

Although the Fund continues to maintain a nominal existence, its resources were largely removed by the Bretton Woods Agreement Act of July 31, 1945. This Act provided that \$1,800,000,000 from the Fund be utilized to pay, in part, the United States subscription to the International Monetary Fund.

EXCHANGE CONTROL BY DIRECT PRESSURE ON THE BALANCE OF PAYMENTS

The reasons for direct control over balance of payment items.
We have already studied the manner in which the British Ex-

² Cf. Johnson, G. Griffith, *The Treasury and Monetary Policy*, Cambridge, Harvard University Press, 1939, pages 92-128.

change Equalization Account and foreign central banks were able to introduce short-run exchange rate stability by trading in the free exchange markets. So long as no powerful and sustained drive against a currency developed, such measures were effective. Furthermore, the supported rates were designed to correspond to the long-run equilibrium rates. So long as no fundamental disequilibrium arose, or there developed no severe capital flight, the methods of control used were adequate. But during the 1930's, two circumstances developed that spelled trouble for the balance of payments position of many countries. First, the great depression and the crisis of 1931 created severe exchange problems for numerous countries. Second, the threat of war, and its actual outbreak in September 1939, not only induced heavy flights of capital from troubled areas but created enormous distortions in the import-export relationships.

Controls arising out of the depression of the 1930's. The financial crises of 1931 brought grave exchange difficulties. When a flight of capital accompanied these disturbances, it placed an almost unbearable burden upon the monetary systems of countries with inadequate gold supplies. Countries well fortified with gold, such as the United States and France, were able to weather the storm, but England, with its relatively small gold supply, was compelled to suspend gold payments in September. Especially difficult were the positions of weak debtor nations, which found that the depression had not only shut off the accustomed flow of foreign loans, but by sharply reducing their export trade, had also made the servicing of old foreign debts extremely difficult.

The choices open to countries unable to draw upon an ample gold supply were limited. Because of panic conditions, an increase in the discount rates within the country losing gold was no longer effective in attracting foreign short-term capital. This was true even in London itself, where the discount rate had so long been successfully used for this purpose. At such a time, the effect tends to be just the opposite, for an increase in the rate is construed to be a sign of weakness. Smaller countries, of course, can make little use of the discount rate at any time to influence the flow of short-term capital. Nor was there any hope of relief, during such a period of general world depression, in embarking upon a program of internal price deflation. At best, success would be doubtful and could hardly be counted on

to create such an immediate change in the balance of payments as to offset the effect of capital flight. Moreover, these countries were weary of depression, and any attempt to bring about a further deflation of prices and costs, with the accompanying aggravation of unemployment and bankruptcy, was not politically tolerable. The most natural policy to expect under such circumstances, therefore, was the abandonment of gold and a depreciation of the exchange value of the currencies. This was the policy successfully followed by England and the other members of the Sterling Bloc. It offered the advantage over deflation of being quickly accomplished, and at the same time it was free from the depressing effects of deflation upon the domestic economy. The depreciation of the exchange value of the currencies lowered the costs and prices of goods produced for export, increased the cost of imports, and encouraged domestic recovery. Through exchange depreciation, exchange rates were allowed to seek their equilibrium level, and the adverse balance of payments was largely corrected without imposing control or restraint over the items themselves that comprised the balance of payments.

But the idea of embarking upon a policy of exchange depreciation was repugnant in many countries that had not forgotten the ravages of acute inflation and the accompanying exchange depreciation of the years following World War I. The fact that exchange depreciation in the depths of world depression was quite different from the depreciation experiences after the war did not alter popular distrust of the matter. Moreover, unless it might be confidently expected that devaluation or depreciation would so improve domestic conditions as to induce speculators to believe that capital remaining in the country was now safe, devaluation would provide no certain relief from the flight of capital.³ In any event, it is undesirable to attempt to readjust a country's imports and exports to meet the whims of short-term capital movements.

It is not surprising, therefore, that some countries rejected both deflation and exchange depreciation and sought relief for their troubles by bringing pressure to bear upon the transactions that were to blame for the adverse balance of payments. Such control

³ Only if the flight were induced by the expectation of a given devaluation, and if the expected devaluation were accomplished, would this put an end to the flight of capital.

naturally was aimed first at shutting off the flight of capital, which was such a powerful and demoralizing force in the exchange markets.

Control of capital exports. Control over capital exports is established by the prohibition of the purchase of foreign exchange for the purpose of transferring capital out of the country. To make the control effective, all dealings in foreign exchange must be brought under regulation. All exporters possessing foreign bills of exchange are required to sell these bills to the control agency at a set or official price, and the export of gold and currency is banned. Purchases of foreign exchange must be made from the official control agency and are restricted to noncapital transactions. To prevent the development of "black markets," where exporters dispose of their foreign bills at prices above the official rate to persons wishing to export capital, rigid controls are required, but even so some evasion is almost certain to occur.

But it is not enough to prevent residents of the control country from exporting capital through the foreign exchange market. Commonly there are funds or claims to funds belonging to foreign firms and individuals. These foreign owners may seek to withdraw their funds by the simple expedient of drawing drafts or bills of exchange, which are offered for sale in the foreign exchange market. To avoid this withdrawal, it is necessary to "block" the bank deposit accounts of foreign ownership. The blocking of accounts simply means that funds within the control country belonging to persons living abroad may not be used to pay for exports from that country. If resort were not had to this policy, capital might leave the country in the guise of exported goods, and the proceeds from current exports would then be "unrequited" or not available to pay for the necessary imports. Moreover, to prevent pressure on the exchanges arising from the payment of interest and principle on foreign debts, such claims too must be placed in blocked accounts.

Under the circumstances just described, the primary purpose and effect of exchange control is to remove from the balance of payments the uncurrent items, such as old debt service and capital movements. With this pressure relieved, it is reasonable to expect that the current import and export items of trade may be brought into balance with ease. This result may not be realized, however, for reasons that we shall examine later.

Blocked currencies. As we learned earlier, the prevention of capital exports requires the "blocking" of foreign owned funds to prevent their use for the purchase of goods for export. Otherwise, evasion of the exchange restrictions becomes easy.

The claims of foreigners on funds in an exchange-control country originate in any one of several ways:

1. They may consist of normal working balances needed by foreign exchange dealers trading in exchange drafts of that country.
2. They may consist of short-term capital that has previously moved into the country in search of earnings or security.
3. They may consist of interest on long-term loans, including the amortization of principal.
4. They may consist of short-term commercial credits.
5. They may consist of funds received from the sale of securities.

The goal sought in the establishment of blocked accounts includes the removal of the immediate threat to the rate of exchange arising from attempts to transfer such funds out of the country. In addition, blocked accounts provide a weapon for reducing interest charges on foreign debts. In seeking this goal, the country that has blocked foreign owned funds encourages the funding of short-term debts into long maturities, which still remain under the ban of capital exports. A reduction of interest charges is sometimes exacted as a price for relaxing restrictions on the use of blocked accounts.

The earliest outstanding example of blocked currencies was the German Standstill Agreements of 1931. The financial crises of that year swept over Europe and created great fears for the stability of currencies. Because, at that time, German banks and other debtors owed short-term debts to foreign creditors amounting to five billion marks (about one and one-half billion dollars), it became necessary for the German Government to declare a debt moratorium and to impose control over foreign exchange transactions. It was these debts which were first blocked under the Standstill Agreements.

A number of other countries followed Germany's example in blocking foreign owned funds within their borders. But it was not until the outbreak of war in 1939 that exchange control and blocked accounts became commonplace. The end of the war saw

no relaxation of exchange controls. Instead, blocking of old debts became even more urgent, for huge additional debts were accumulated because of the war. Only by a continuation of blocking of accounts could countries be certain that the proceeds from current exports would be available to pay for the necessary imports.

The exploitation of creditors through the use of blocked accounts. Ostensibly, the practice of blocking foreign-owned credits and balances is designed to protect the balance of payments of the exchange-control country from pressure during temporary periods of economic dislocation. But it has in fact gone much farther than the mere temporary postponement of creditors' claims. As the price for the release of part of these blocked accounts, creditors have been coerced into compromising their claims, both by reducing interest and by cancelling part of the principal. Furthermore, the blocking of interest and amortization payments on foreign-owned securities causes a sharp drop in the market value of such securities in the creditor countries. Likewise, blocked balances themselves are offered for sale in the creditor countries at heavy discounts. Because the control authority in the debtor country monopolizes all foreign exchange created by current exports, it is able to utilize part of this exchange to purchase these securities and blocked accounts at their depreciated values. It is able thus to gain by the difference between what it pays for these blocked credits and securities and what they are worth within its own country. The profits obtained in this manner were used in prewar Germany to pay a subsidy to exporters in order that they might more readily meet foreign competition and expand the country's export trade.

EXCHANGE CONTROLS WITH OVERVALUED CURRENCIES

The blocking of foreign held balances and a strict avoidance of capital export should, on the face of things, greatly simplify the balance of payments problem of a country. With the threat of capital movements out of the way it should be relatively easy for the country to achieve a balance between current imports and exports. Unfortunately this does not necessarily prove true. First, the suspension of service on foreign debts places an almost insurmountable barrier in the way of new loans from abroad. This closes the door to one possible source of relief from the original difficulties of the adverse balance of payments. Second, ex-

change control of this sort necessarily involves the maintenance of an official rate at which foreign bills of exchange may be bought and sold. So long as the official rate is the same as the equilibrium rate of exchange, which permits a balance between current non-capital import and export items, no trouble need arise. But even though the official rate of exchange is the equilibrium rate when first established, it is unlikely to remain so for any very long period. There are a number of reasons for this condition. First, during the depression of the 1930's the fixed exchange value (in terms of gold) of the German mark came to be overvalued because German prices and employment were stimulated by domestic expansion measures, whereas in the gold currency countries prices continued to fall. Thus German prices became relatively too high to justify the official foreign exchange value of the mark. The mark also became overvalued in relation to the Sterling Area currencies and later the United States dollar as those currencies were depreciated. The currencies of the European Gold Bloc countries suffered a similar fate previous to their eventual devaluation.

Second, and even more significant today, is the fact that established official exchange rates often become overvalued rates as a result of the upheavals of war. These upheavals cause unequal degrees of price and cost inflation in the different countries of the world. Those countries whose price and cost levels have increased substantially more than those of other areas find that the old official rates of exchange tend to overvalue their currencies. Furthermore, war not only causes unequal changes in price levels of the countries involved. Also, to a varying degree, it destroys markets, dissipates foreign investments, creates new debts, and exhausts natural resources. After such changes a rate of exchange that would provide an equilibrium in a country's balance of payments would almost certainly differ substantially from the prewar rate. It was the dislocations arising out of the war that made the postwar official exchange value of the British pound and other European currencies too high in terms of the United States dollar and ultimately compelled an adjustment downward through devaluation.

It follows, therefore, that an official rate of exchange, though correct at the start, may often overvalue the domestic currency at a later date. Then exports languish while imports are stimulated, and the balance of payments is again upset. It then be-

comes necessary to extend control to the items of current trade. "Unnecessary" imports must be discouraged by quotas, tariffs, or by refusing to sell foreign exchange to unlicensed importers. Bureaucratic interference with normal trade becomes burdensome and uneconomical, with undesirable results on the domestic economy.⁴

The development of bilateral clearing agreements. Assuming that the official exchange rate places too high a value on (*i.e.*, overvalues) the domestic currency, imports must be rationed and restricted if sufficient foreign exchange to pay for them is to be obtained from the declining exports. In the face of this decline in foreign trade the country practicing exchange control, which we may call Country *A*, finds it increasingly difficult to obtain imported food and raw materials necessary for its existence. At the same time the country that we may call Country *B*, accustomed to sell these goods to Country *A*, is loath to see its markets in Country *A* disappear. As a result the control country, *A*, is likely to impose an agreement on Country *B* in which *B* accepts payment for its sales to *A* in the form of credits deposited in a blocked account in Country *A*. Unlike ordinary unblocked accounts, which can be withdrawn freely or converted freely into other currencies, such a blocked account can be used only for paying for purchases made in Country *A*. The mechanism for carrying out such a plan consists of an account in Country *A* into which *A*'s importers pay domestic currency in the amount equal to their purchases from Country *B*. Country *B*, in turn, establishes an account into which *B*'s importers deposit *B*'s currency in amounts equal to their imports from Country *A*. When settlement between these two accounts is made in foreign exchange, the arrangement is known as a *payment agreement*. When settlement is solely by offsetting claims in one account against those in the other, it is known as a *clearing agreement*. Sometimes not only is foreign exchange not used in making settlements, but also balances are prevented from accumulating on open book accounts to await periodic balancing of the totals. In such a case, each individual import must be offset by an export of equal value. Such barter arrangements are called *compensation*.⁵ The use of

⁴ For an able discussion of the problem of exchange control, see Ellis, Howard S., *Exchange Control in Central Europe*, Cambridge, Harvard University Press, 1941.

⁵ Cf. Ellis, *op. cit.*, pp. 13-17.

the compensation method of settlement limits the choices of importers and exporters, since their trade involves the difficulty of the "double coincidence of wants." The advantage consists, however, in the fact that compensation settlements allow some trade to continue at times when an unliquidated clearing balance makes further use of clearings impossible.

A second reason for the creation of bilateral clearing agreements is found in the attempt of owners of old blocked accounts to realize something more substantial on their claims than unfulfilled promises. To accomplish this, these creditors to whom debts are owed by the control country must arrange to have their government set up a central agency to handle payments due the debtor country on current imports. Under this arrangement, importers in the creditor country make payment to the central agency in their own country instead of remitting directly to the exporter in the exchange-control country. Before paying the funds to the foreign exporter, the creditor country's central agency will deduct something for payment to holders of blocked accounts. In this manner, the creditors receive partial payment from the proceeds of the debtor country's exports. But, quite naturally, the debtor will not submit to this use of its exports to liquidate blocked accounts unless its trade with the creditor country is considered vital. Hence, creditor countries that are good markets and have an unfavorable balance of trade with the debtor are most likely to succeed in arranging for liquidation of blocked credits abroad.⁶ Chart 29 shows the working of such agreements. The price of these agreements is the establishment of a similar agency in the debtor country, to which payments are made for imports from the creditor country.

TRADE DISCRIMINATION THROUGH CONTROLLED EXCHANGES

Trade discrimination is not a new thing in international economic relations. Trade agreements as well as unilateral action may be the basis for discrimination. Trade discrimination commonly involves giving preference to imports originating in one country over those from other countries. The preference may arise out of political ties or out of the economic necessity of favor-

⁶ League of Nations, *Enquiry into Clearing Agreements*, 1935, pp. 11-12. Cf. also *International Currency Experience*, League of Nations, 1944, Chapter VII.

ing imports from countries which in turn provide a vital export market.

The devices by which discrimination is shown include (1) establishment of quotas on imports from countries discriminated against; (2) discriminatory tariffs against imports from such countries; and (3) use of exchange control. Our interest here lies in the use of exchange control as a method of diverting trade into approved channels.

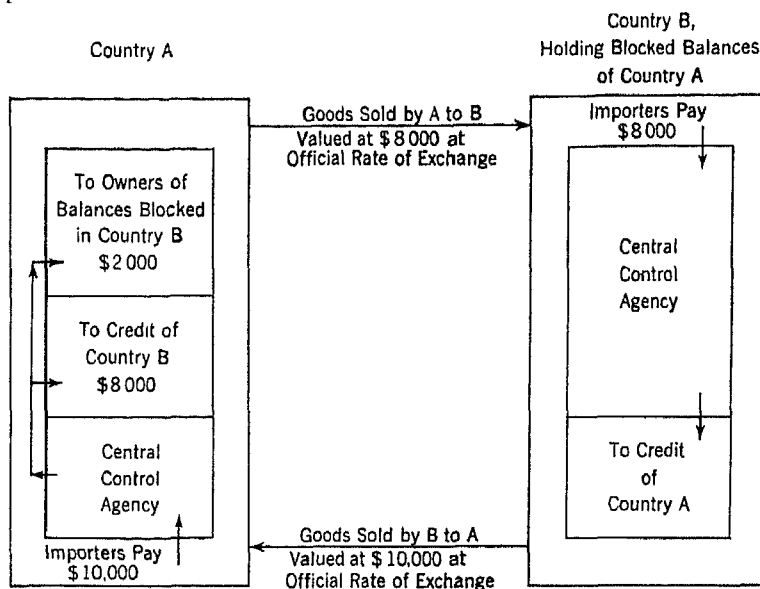


CHART 29. ILLUSTRATION OF BILATERAL CLEARING AGREEMENT IN WHICH ONE COUNTRY RECEIVES PAYMENTS ON BLOCKED BALANCES HELD BY THE OTHER.

The power of discrimination through exchange control. Exchange control involves the purchase by the control authority of all or part of the foreign exchange arising from export transactions. Importers, wishing to buy foreign goods, must purchase from the control authority the foreign exchange necessary for payment. The control agency must then decide not only the appropriateness of the import of particular commodities but also the further question of the appropriateness of the origin of the goods. If it wishes to discriminate against the imports from a particular country (1) it may refuse altogether to sell exchange for the payment of such imports; (2) it may limit the amount of foreign exchange it will sell for purchases from the country discriminated

against; and (3) it may charge a discriminatory price for exchange, higher than that charged for exchange used to pay for imports from more favored countries. An example of this discrimination is found in the practices of Argentina, which has sold foreign exchange at low, favorable prices for payment for imports from England, with which she has an export surplus. In contrast, imports from the United States have had to be paid for with exchange bought at a higher price in the free market or at less favorable official rates.

Multiple exchange rates. Exchange control countries have frequently found it desirable both for purposes of discrimination and for other reasons to maintain different foreign exchange rates for different commodities and for trade with different countries. The "official" rate is generally set to give a high foreign exchange value for the domestic currency, a value that frequently results in overvaluation. Such a rate, of course, tends to discourage exports and to encourage imports. Exporters of commodities enjoying a strong foreign demand are required to sell their foreign exchange receipts to the central control authority at the official rate. This restriction is somewhat unfavorable to the exporters save for the possibility that they may require a higher price of the foreign buyer. It is of advantage to the control authority in that it is thus able to acquire foreign exchange at a relatively low price in terms of domestic currency. For example, Argentinian exporters of grains and meats were required to sell their foreign exchange receipts at the official rate. Importers of approved goods or goods originating in favored countries were allowed to purchase foreign exchange at the official and, to them, favorable rate. On the other hand, exporters of commodities having a weak foreign demand were allowed to sell their foreign exchange bills in the free market or at a controlled rate more favorable to exporters. Importers of less favored commodities or from less favored countries, in turn, were required to buy foreign exchange in the more costly free market or at a higher and less favorable official rate.⁷

The official rate of exchange sometimes intentionally is set so as to overvalue the domestic currency in the belief that the control

⁷ Cf. Wiley, Jay W., *Some Problems of Foreign Exchange Control in Argentina*, (Abstract of Thesis, University of Illinois), 1948, pp. 2-3. Also League of Nations' *International Currency Experience*, 1914, p. 174.

country may thus be able to improve the "terms of trade" with at least part of the outside world. This means simply that a larger quantity of necessary imports may be obtained in exchange for available exports. The possibility of gain from this source rests in the ability of the control country to continue to sell its exports in spite of the higher cost to the importing country arising from the overvaluation of the control country's currency. The possibility of achieving this beneficial result may arise out of economic duress imposed by a stronger control country upon its weaker satellites or because of a sellers' market for exports such as existed in the world following World War II. But in the less favorable markets it is necessary to allow the exchange value of the currency to depreciate in order that exporting may be carried on. The practice of maintaining multiple exchange rates can be explained, therefore, both by the desire to engage in discrimination and by the hope of improving the terms of trade.

CONTROL OVER EXCHANGE TRANSACTIONS DURING WARS

The threat of war introduces powerful disturbing forces in the form of capital flight. Even a fund as large as the British Exchange Equalization Account was necessarily helpless in the face of such a flight of capital as that induced by the threat of a general European war or by its actual appearance. When the Munich crisis of September 1938, induced a heavy flight of capital from European countries to the United States, the pound fell in value from \$4.92 in July to \$4.75 the following November, in spite of the fact that the British Exchange Equalization Account surrendered over £200,000,000 in gold (roughly \$1,000,000,000). The crisis leading to the declaration of war on Germany by England and France in September 1939, again compelled the Account to export large amounts of gold to support the pound. Even so, the pound declined in value from \$4.68 in July 1939, to \$3.99 in September.

The actual outbreak of war itself was the signal for both England and France to abandon attempts to control exchange rates by means of the operations of the exchange equalization or stabilization accounts in free exchange markets. Instead, they both promptly established exchange control regulations. In England, all dealings in foreign exchange were concentrated in the hands of authorized dealers operating under the control of the Bank of

England. Control was gradually extended until foreign-owned balances were blocked and the purchase of foreign exchange was permitted only to pay for essential imports. The exchange control measures included the fixing of an official buying and selling rate for foreign exchange with the dollar rate slightly above \$4.00 per pound. This fairly dear pound and cheap dollar rate had the advantage of keeping down the costs of imports. The official rate was maintained by combining direct restraint upon capital exports and unnecessary imports, with a judicious use of the Exchange Equalization Account's gold supply.

Meeting wartime pressure on the balance of payments. In time of war a country must necessarily devote its maximum efforts to the war's needs. Hence exports shrink while at the same time import requirements increase. The resulting adverse balance of payments must be met in some manner. England adopted a number of expedients. First, through the Exchange Equalization Account, it exported gold. Second, it commandeered from its own citizens securities readily salable in foreign money markets, where they were sold or used as loan collateral. Third, mutual aid agreements with Canada and lend-lease assistance from the United States later cared for the import surplus from these sources. Finally, arrangements were made with all the countries of the Sterling Bloc and with other important supply sources whereby they agreed to accept payment for goods and services sold to England in the form of blocked sterling balances. Moreover, all dollars received by members of the Bloc from sales to the United States were pooled and placed at the disposal of the British control agency for allocation to uses believed to be most urgent from a military standpoint.

The sterling balances accumulating to the credit of these countries were used, in part, to retire debts owed by them to England at the start of the war. Even so, at the war's end the net claims in blocked sterling accounts held by members of the Sterling Bloc and other countries amounted to over three and one-third billion pounds or nearly fourteen billion dollars. Since these balances were not convertible into other currencies, members of the Sterling Bloc could purchase from the United States only the limited amount allocated to them out of the "dollar pool." Subject to the strict wartime limits on trade, a certain degree of multilateralism existed among members of the Bloc, since sterling could be

transferred in settlement of trade and other obligations among them.

During the years following the war, many countries experienced great difficulty in building up their exports to the point where their import requirements could be met. Particularly did they have trouble in exporting sufficient quantities to the Western Hemisphere to provide enough exchange to purchase imports that had to be paid for in "hard currencies," especially dollars. Therefore the return to free convertibility and multilateral trade had to be postponed and exchange controls and bilateral trading agreements continued to dominate postwar foreign trade. Some of the problems of the postwar period will be examined in Chapter 36.

THE EFFECTS OF EXCHANGE CONTROLS

One of the frequent consequences of direct exchange control during depression is the establishing of an official rate that tends to be higher than the equilibrium foreign exchange rate. Thus, exports languish, imports are stimulated, and the problem of an adverse balance of payments reappears in the form of an inability to bring current export and import items into balance. This situation calls for remedial action, which may take the form of surcharges on imports from which export bounties may be granted. Moreover, the shortage of foreign exchange makes it imperative that unnecessary imports be held in check in order that needed imports may be had in the desired amounts. This, in turn, requires the allocation of foreign exchange to those importers whose claims seem most impressive to the ears of the exchange-control authorities. Thus, the interference with the internal economic functions, through the subsidizing of exports and the restraints upon imports, becomes more and more disturbing.

The use of clearing agreements places yet more interferences in the natural channels of international trade. Under such agreements, trade tends more and more to become strictly bilateral, since purchases from countries with which such agreements exist tend directly to promote exports. Purchases from countries with which no agreements exist must be kept at a minimum to husband the scarce supply of free foreign exchange required for such necessities as must be purchased abroad in free exchange markets. This tendency decreases the normal trade between the control country and third countries, to their mutual disadvantage.

Moreover, creditor countries that are parties to clearing agreements may find it difficult to collect adequate amounts on blocked accounts without increasing still more the size of their adverse balance of trade with the debtor countries. If, during depression at home, an expansion of the creditor's imports seems undesirable, it may adopt the alternative method of placing restraints upon exports to the debtor country. Again, this reduces trade between nations. It is not surprising, therefore, that most governments answering the inquiry of the League of Nations stated that they considered the clearing agreements a necessary evil, which they soon hoped to abandon in favor of the normal methods of international trade.⁸ Nor is it surprising that the League of Nations Committee which carried on the investigation concluded, "The present situation proves beyond all doubt that the control of debt settlement by exchange control does not achieve its object. Exports, and consequently the actual settlement of debts, are thereby made more difficult."⁹

Questions for Study

1. Why is stability of exchange rates considered important? Turn back to page 44 and study Chart 1. What type of exchange rate stability was sought by the sterling area countries in the 1930's?
2. How can the foreign exchange value of a currency be maintained at a certain selected point?
3. Why is the foreign exchange value of a currency sometimes depressed below the equilibrium point?
4. Why did England create the Equalization Account in 1932? How did it operate to stabilize the pound? Did the Account appear to attempt to maintain the pound above or below equilibrium?
5. What was the American Stabilization Fund? What did it accomplish?
6. Can you explain why some European countries refused to depreciate their currencies during the depression of the 1930's?
7. Comment on the relative effectiveness of (a) depreciation and (b) deflation as methods of meeting adverse balances arising from depression.

⁸ League of Nations, *Enquiry into Clearing Agreements*, 1935, p. 17.

⁹ *Ibid.*, pp. 18-19.

8. Why is the establishment of controls over capital exports a first step in the direction of exchange control? Why are blocked accounts a necessary part of controls over capital export?
9. What was the outstanding example of blocked currencies of the 1930's? Why did Britain find it necessary to block the war-time accumulation of sterling balances belonging to other members of the sterling bloc?
10. Why did the German mark become overvalued in the 1930's? What further action did this require?
11. What are bilateral clearing agreements? How are they related to a lack of adequate gold or other internationally accepted currency?
12. Why do bilateral clearing agreements tend to restrict the volume and effectiveness of world trade?
13.
 - a) Do you understand how exchange controls are used to discriminate against imports of certain kinds?
 - b) How is this a substitute for import restrictions imposed by a fall in the exchange value of the country's currency?
 - c) Assuming that imports must be reduced to establish equilibrium in the balance of payments, which method is preferable? Can you defend your answer?
14. What are multiple exchange rates? Why are they used?
15. Why did the outbreak of war compel England and France to adopt controls over exchange transactions?

Exchange Depreciation, 1929-1949

IN THE PRECEDING CHAPTER WE EXAMINED THE VARIOUS WAYS IN which governments have interfered in the foreign exchange markets. These interferences range all the way from mere stabilizing efforts to offset speculative disturbances to complete control. Closely related to the problem of exchange control is that of exchange depreciation, which at times has involved direct interference by governmental agencies in the foreign exchange market. Between 1929 and 1949, the world saw an almost fantastic development of the use of exchange depreciation on the part of countries attempting to solve their economic problems.

Purposes behind depreciation of currencies. We are already familiar with the important relation between a country's foreign trade and the foreign exchange value of its currency. Too high a value (overvaluation) causes exports to stagnate and encourages imports with the result that an adverse balance of payments constantly tends to develop. Such an adverse balance, when of a chronic nature, threatens a country's international currency reserves, and in addition, must ultimately tend to cause depression of prices and employment. On the other hand, too low a value of a currency in the foreign exchange markets (undervaluation) stimulates exports, checks imports, and encourages domestic output and employment.

The purposes that induce countries to take steps to depreciate the foreign exchange value of their currencies, therefore, are intimately related to their balance of payments problems. During the depression of the 1930's, two urgent reasons existed for undertaking currency depreciation. First, the depression in industrial countries caused a severe fall in the value and quantity of the

exports of raw-material-producing countries. Furthermore, such countries were generally capital importers (borrowers) from the industrialized areas of the world and the depression tended abruptly to shut off the inflow of capital. Consequently these raw material countries found it undesirable and even impossible to bring their balance of payments into equilibrium through internal price deflation. In the face of shrinking international currency reserves (gold and foreign exchange), they felt compelled to abandon the existing exchange rates and to permit their currencies to depreciate. In addition, they frequently found it necessary to supplement the effects of depreciation by tariffs and quotas on imports.

A second and often more powerful motive behind depreciation in the 1930's was the desire, in the face of acute depression, to undervalue the currency to a point where exports would expand and imports shrink sufficiently to create a *favorable* balance of payments. The reason for this desire stems from the well recognized fact that a favorable balance of payments stimulates domestic employment. It is obvious to anyone that if exports can be increased and imports reduced, there will be more employment at home. Or, to use a somewhat more sophisticated analysis, a favorable balance, if achieved, injects into the domestic income flow an amount of funds equal to the favorable excess. This occurs whether gold and other acceptable forms of funds are "shipped in" in payment or the excess is financed by the extension of credit. The increase in income so generated is subject to the well-known "multiplier" effect. It is not surprising, then, that individual countries have frequently sought to benefit themselves by undervaluing their currencies. To be sure, *undervaluation* by one country tends to make other countries' currencies *overvalued*, so that the policy of undervaluation through exchange depreciation came to be known as a "beggar-my-neighbor" policy, or "exporting unemployment." Little wonder that exchange depreciation invited retaliation, and that in the 1930's competitive exchange depreciation became commonplace.

The year 1949 brought a new wave of currency depreciation. Britain and the other sterling area countries led the way with devaluations of 30.5 per cent in terms of gold parities. They were followed by varying degrees of depreciation in Canada, Egypt, Israel, Argentina, Uruguay, and all of Western Europe. The reasons for the devaluations of 1949 were unlike those of the

1930's. In 1949, domestic unemployment, although a threat in parts of Western Europe because of clearing and exchange difficulties, was not the motive behind devaluation. Indeed, Britain was in a state of full employment. The devaluations or exchange depreciations of 1949 grew out of the so-called *dollar shortage*, which plagued the postwar world. Britain and Western Europe were especially hard pressed to pay for their imports from the dollar area, the United States in particular. The reasons for this difficulty are numerous and will be examined in greater detail in Chapter 38. This dollar shortage, or gap in the balance of payments, has been filled (1948-1950) by Marshall Plan aid. But because such aid was scheduled ultimately to come to an end, drastic steps, designed to close the gap, seemed necessary. Obviously one possible solution lay in the use of depreciation of currencies in terms of gold and the United States dollar.

Methods used to bring about currency depreciation. The depreciation of a currency may be accomplished in a number of different ways. First, in cases where depreciation is used to correct overvaluation, all that may be necessary is the removal of existing controls that have operated to maintain the currency in its overvalued position. In 1931, the depreciation of the British pound was accomplished by the simple expedient of removing the peg of gold convertibility. The normal market forces, aided perhaps by speculative operations, provide the force that drives the exchange value of such a currency down toward its equilibrium level. Second, the natural forces mentioned above may be supplemented by actual or threatened inflationary measures that encourage speculative selling or flight of capital and thus drive the currency value below its equilibrium level. Third, the exchange value of an inconvertible paper currency may be driven down by its sale in the foreign exchange market by the central bank. Finally, currencies with gold parities may be "devalued" and the exchange values thus reduced in terms of other gold currencies whose parities have remained unchanged. The devaluation of the dollar in 1934 was accomplished in this manner. Likewise the currency devaluations of 1949 were also carried out by changes in gold parities.

THE RESULTS OF CURRENCY DEPRECIATION DURING DEPRESSION

The reasons for currency or exchange depreciation fall into two main categories: (1) to correct for overvaluation and thus restore

equilibrium in the balance of payments; and (2) to undervalue the currency and thus promote domestic employment. To assess the results of depreciation, one must both explore the probable and possible results by theoretical analysis, and so far as possible, study the actual historical consequences.

Because the 1930's provide material for both theoretical analysis and the study of actual events following currency depreciation, that period will be examined first. Although in a few instances currency depreciation of the 1930's merely aided in the establishment of equilibrium, generally there was a definite tendency to attempt to undervalue currencies and thus promote domestic employment and recovery from depression. Consequently our inquiry into the results of depreciation practices of that period will proceed on the assumption that undervaluation was the immediate goal and an improvement in employment and prices the ultimate goal being sought.

Results to be expected from undervaluation during depression. One can readily appreciate the very real advantages that follow the depreciation of a currency that previously has been overvalued in the foreign exchange markets. Identical advantages tend to appear in the country that intentionally forces down the foreign exchange value of its currency *below* the true equilibrium rate. The cheapening of the domestic currency in the foreign exchange markets makes exports cheaper for foreigners to buy and at the same time makes importing more costly. We are already familiar with the way in which the economic forces operate to restore the equilibrium rate of exchange once it is disturbed. If exchange rates are free to move, adjustments appear quickly through appropriate changes in the rate. If, as is the case with intentional exchange depreciation, the exchange rate is stoutly held below the equilibrium point, a slower adjustment tends to take place through appropriate movements in the level of prices. It is clear that so long as prices are not sufficiently adjusted to make the new low exchange rate the equilibrium rate, exports are stimulated, imports are retarded, and domestic industry is encouraged.¹ Thus, a lag in the adjustment of prices may be considered

¹ Even after prices have risen within the country practicing exchange depreciation, the beneficial effects are not entirely lost. The initial impetus to business recovery may be followed by a general cyclical improvement. A genuine advantage from higher prices is found in the improved cost-debt-price relationship.

beneficial in promoting domestic recovery. The prices of goods that move freely in international trade can be expected to make an almost immediate adjustment to the change in the exchange rate. Prices of such commodities must necessarily become adjusted so that the difference in price at home and abroad, when calculated at the ruling rate of exchange, is no more than the cost of transfer from one country to the other. Although this is true, the costs of producing such commodities will lag behind their prices substantially. Even though export prices rise, the stimulating effects of exchange depreciation do not disappear so long as the lag in costs persists, since exporters retain a relative, competitive advantage over producers in countries with overvalued currencies. If retaliatory action is immediately taken by other countries, the realized benefits from exchange depreciation may not be so great as anticipated. Such retaliation may take the form of (1) exchange depreciation or (2) tariffs and quotas on imports from the country practicing depreciation.

That a movement of the rate of exchange away from equilibrium leads to the operation of forces tending to restore equilibrium can hardly be disputed. If the exchange rate is not permitted to shift in the direction of equilibrium, the price levels must do so. In the latter case, two distinct questions arise: First, how much time must elapse before prices may be expected to move to an equilibrium position? Second, to what extent will the adjustment in prices occur inside the country with depressed exchanges as compared with price adjustments occurring in the outside world? Both of these questions are pertinent to any attempt to evaluate the effectiveness of exchange depreciation as a recovery measure.

The lag between exchange depreciation and changes in the price levels required to make the new rate of exchange an equilibrium rate must necessarily depend upon the circumstances. To be sure, the prices of goods moving directly in international trade will be immediately adjusted so that the difference in price, computed at the ruling rate of exchange, will differ between countries by no more than the cost of transfer. Yet the fundamental costs, the prices of the factors of production, may change much more slowly. If the country that depreciates its exchange rate is plentifully supplied with idle factors of production or factors that may readily be switched from other industry to the making of

exports, the increased price of exports will have but little immediate effect upon the price of the factors. Since countries that tried voluntary exchange depreciation in the 1930's were countries in the throes of depression, one might well expect a considerable lag between an increase in prices and costs. Similarly, the higher costs of imports resulting from exchange depreciation encourages home production with little effect on costs. Evidence of the existence of a very substantial lag of costs behind price movements is presented in Table 30 on page 629.

Will voluntary exchange depreciation raise domestic prices? Because of the attempt made to raise prices by devaluating the dollar in 1933-1934, the effectiveness of voluntary exchange depreciation as a means of raising domestic prices has been the subject of much controversy in the United States. Although changes in import and export prices are bound to occur, there is little reason to expect anything like a proportional change in the fundamental price structure of a country that devalues its currency. In a small country, where imports and exports play a large part in the total economy, the adjustments in import and export prices tend to cause substantial adjustments in the total price level. On the other hand, in a large country like the United States, where foreign trade is relatively small as compared with domestic trade, the effect on the general level of prices is unlikely to be of any great immediate importance.

The effect of devaluation on a country's price level depends also on whether price adjustments take place in the *domestic* market or in *foreign* markets. It should be obvious that one cannot forecast accurately whether equilibrium will be restored by an increase in prices and costs within the country practicing exchange depreciation, or by a fall in prices in the outside world. Nevertheless, there are certain conditions under which one effect is more probable than the other. If we enumerate the conditions that operate in favor of and against the rise of domestic prices, we shall be in a better position to evaluate the probable effects of exchange depreciation on the price level.

Under the following conditions, exchange depreciation should tend to bring about a relatively large internal rise in prices: ²

² Harris, S. E., *Exchange Depreciation*, Cambridge, Harvard University Press, 1936, Chapter II.

1. When exports constitute a relatively small part of the world trade in that commodity. This situation makes for an elastic demand for the country's exports.

2. When its exportable goods are largely produced for export and constitute but a small fraction of the purely domestic trade. This makes for a relatively inelastic supply, since a rise in export prices cannot attract large supplies from the home market into the foreign market.

3. When the domestic demand for exportable goods is inelastic, so that a rise in export prices will not be able easily to attract supplies from the domestic market.

4. When the supply of the same exportable products is elastic in other countries producing the same things. Thus, the increased exports of the country practicing exchange depreciation will have less depressing effect on world markets than otherwise, because of the ready shrinkage of supply from other sources as world prices weaken.

5. When the number of countries attempting simultaneous use of exchange depreciation is small. This arises from requirement (1).

6. When foreign trade commodities make up a large part of those entering into domestic trade. If a small country is dependent upon its foreign trade to such an extent that nearly all of its domestic trade is intimately tied up with import and export commodities, the general price level will respond quickly to changes in import and export prices.

On the other hand, exchange depreciation should tend to depress foreign prices rather than raise domestic prices when:

1. Domestic supplies of export goods are elastic.

2. Foreign demand for such goods is inelastic because of few alternate sources of supply.

3. The number and size of countries engaging in currency depreciation are large compared with the importance of countries not indulging in the practice.

One may, therefore, expect that exchange depreciation practiced by a small country whose exports consist of widely produced staples and whose imports consist of goods having an elastic supply would be very effective in raising import and export prices within that country. As a recovery measure, it might be recommended for such a country. Moreover, the imports and exports of a small country directly affect domestic trade and the whole domestic economy to a much greater degree than is the case with large countries. Being small, such a country might safely engage in

exchange depreciation without stirring up opposition abroad in the form of tariffs and quotas against exchange dumping. This policy practiced by a small country is more likely, therefore, to raise internal prices than to depress world prices.

But when a large country engages in exchange depreciation, there is less likelihood that domestic prices will rise and more likelihood that prices abroad will fall. The imports and exports of a large country have relatively greater weight in the world markets and, therefore, are more likely to cause a shift in foreign prices. Exchange dumping by a large country will invite retaliatory action on the part of other countries. Furthermore, the greater the number of countries involved in exchange depreciation, the less will be the likelihood of domestic price increases. If all countries were to make the attempt to depreciate their currencies at the same time and to the same extent, all advantage would disappear. Therefore, England in 1931 had a better chance to raise its price level by resort to exchange depreciation than did the United States in 1933, when the countries still adhering to the old parities were limited to the Continental Gold Bloc.

THE BEHAVIOR OF PRICES FOLLOWING CURRENCY DEPRECIATION OF THE 1930's

A considerable amount of statistical evidence has been assembled in respect to the price movements which have accompanied exchange depreciation.³ Studies of this sort have been made for the purpose of measuring the degree of price adjustment that has followed depreciation and the extent to which domestic prices have been favorably affected and foreign prices adversely affected. Evidence of a lag in cost and price adjustment would be a favorable factor. Also should it appear that the predominant result of exchange depreciation is to depress foreign prices and to intensify depression abroad, the domestic advantages of such action are likely to be small.

The lag of price level adjustment to exchange depreciation in the 1930's. In Table 30 we have Professor Harris' calculation

³ For example, see Harris, S. E., *Exchange Depreciation*; Gilbert, Milton, *Currency Depreciation and Monetary Policy*, Philadelphia, University of Pennsylvania Press, 1939; and Silverstein, Nathan L., "American Devaluation: Prices and Export Trade," *American Economic Review*, June 1937.

of the percentage adjustment of prices to exchange depreciation. His figures show not only that there was a very great lag in the adjustment of wages and costs of living, but that even import and export prices showed a remarkably incomplete adjustment. But it is highly improbable that import and export prices in fact failed to adjust themselves rapidly to the exchange rate. Hence,

TABLE 30

PERCENTAGE ADJUSTMENT TO EXCHANGE DEPRECIATION OF WHOLESALE PRICES, WAGES, COST OF LIVING, IMPORT PRICES, AND EXPORT PRICES *

Price Index Used	Number of Countries with Ex- change De- preciation	Amount of Average Adjustment of Prices in Per Cent of Exchange Depreciation up to and Including:			
		YEAR I	YEAR II	YEAR III	YEAR IV
Wholesale prices (Compared with 5 gold standard countries)	8	+25	+32	+40	+42
Wholesale prices (Compared with France)	8	+ 8	+23	+28	+36
Cost of living (Compared with France)	9	- 4	+ 2	0	- 1
Wages (Compared with France)	11	+ 1	+ 2	- 2	- 4
Import prices (Compared with France)	11	+68	+50	+56	....
Export prices (Compared with France)	11	+60	+37	+37	....

* From HARRIS, S. E., *Exchange Depreciation*, Cambridge, Harvard University Press, 1936, p. 69. Quoted by permission of the President and Fellows of Harvard College.

The price adjustments given in the above table were calculated by computing the average net price adjustment between the countries with depreciated currencies and gold standard countries, and comparing the net price adjustment with the average amount of currency depreciation. For example, if prices in the United States rose 27 per cent and prices in France fell 10 per cent, the rise of prices in the United States over prices in gold standard France was $27/60$, or 30 per cent. If, owing to devaluation of the dollar, the rise in price of dollars in terms of gold francs was 70 per cent, relative prices in the United States should have shifted by the same amount to have made a complete adjustment to the depreciation of the dollar. The percentage ratio of the actual price adjustment to the depreciation of the dollar, according to our example, would be $30/70$, or 43 per cent, which may be taken as the percentage of the adjustment of prices to exchange depreciation.

there must be some explanation for the discrepancy in the calculated measures of adjustment. Harris suggests, first, that the movement of prices required to restore equilibrium with the new rate of exchange was not so great as indicated by the amount of exchange depreciation. He explains this on the grounds that in all probability the rate of exchange before depreciation was sometimes too high for the existing price levels, and the currency was therefore overvalued. Part of the fall in the exchange rate merely compensated for the previous overvaluation and to that extent did not require any price adjustment. Second, Harris suggests that exporters in countries that did not depreciate their currencies made special price concessions to buyers in depreciated-currency countries. In fact, therefore, there was a greater fall in the prices of exported goods in countries remaining on the gold standard than was indicated in the published price data. Finally, since a great deal of the foreign trade of countries practicing depreciation was with each other, calculations of price adjustments between them and France alone could hardly be expected to show 100 per cent adjustment. Items of foreign trade that moved solely between countries with depreciated currencies naturally influenced the calculated movements of import and export prices of those countries. Yet prices of such commodities would be little affected by a fall in exchange rates on the Gold Bloc countries. To make a valid calculation of price adjustments, only the prices of those things that enter the trade with the Gold Bloc countries (or France, as the case may be) should be included. One may conclude that the real gains reaped from undervaluation were actually considerably less than might be expected in view of the apparent lag in price adjustment. Moreover, Harris' evidence gives no clue to the offsetting effects of rising barriers against imports erected by countries threatened with "exchange dumping" by neighboring countries having undervalued currencies.

Behavior of prices in countries with and without exchange depreciation. A comparison of the movement of prices in countries that depreciated their currencies with price movements in other countries may throw some light upon the effects of exchange depreciation. This comparison is shown in Chart 30. It is clear that countries that abandoned the gold standard and depreciated their currencies were promptly relieved from the pressure of falling prices. Equally clear is the fact that prices continued to fall

in the countries that remained on the gold standard without devaluation. How are these results to be interpreted?

If one favors the view that intentional exchange depreciation is a desirable national policy, the evidence supports this position. Exchange depreciation offers a way for individual countries to break away from the vicious cycle of deflation and to improve

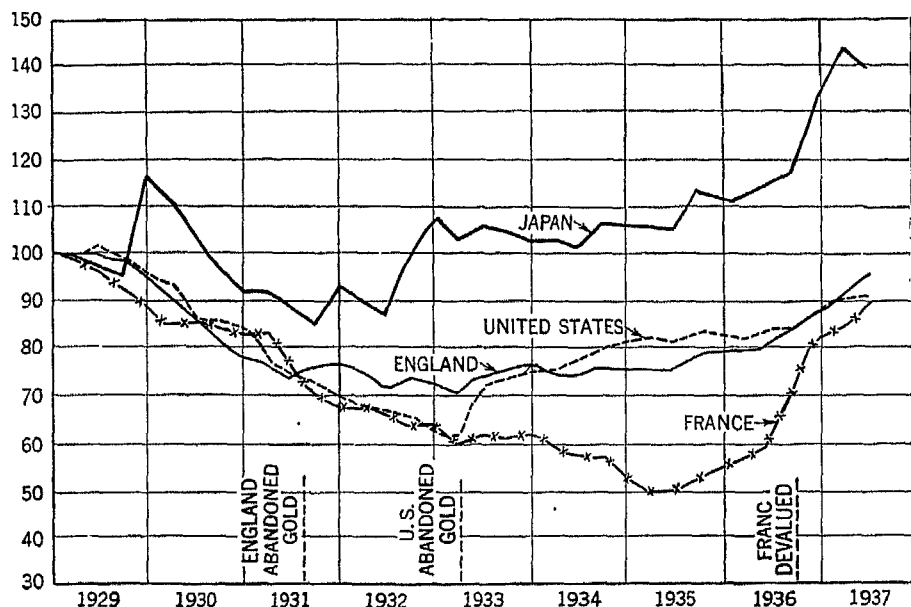


CHART 30. WHOLESALE PRICE MOVEMENTS. January, 1929 = 100.

their domestic situations during periods of severe, world-wide depression. When exchange depreciation results in the undervaluation of the domestic currency, exporters are given an opportunity to seize a larger fraction than before of the reduced volume of international trade. If one wishes a less selfish justification for devaluation, he may find it in the valid argument that exchange depreciation that results merely in the decline from an overvalued rate to one of true equilibrium will stimulate foreign trade and assist in general world recovery.

If, on the other hand, one is inclined to believe that deliberate undervaluation of a currency is objectionable because of its depressing effects upon other countries, he can interpret the evidence in Chart 30 to support this view. For it may be argued that a world-wide recovery in prices was prevented by the whole-

sale currency devaluations that accompanied the departure of England from the gold standard in 1931 and the devaluation of the dollar in 1933-1934. The decline in prices in the remaining gold standard world may be directly traceable to the depressing effect of devaluation or exchange depreciation elsewhere. Therefore, since depreciation resulted in an increased deflation and depression abroad, the benefits claimed for it are largely illusory.

Evidently, one can hardly reach any very conclusive results by observing only the behavior of prices following exchange depreciation. On the face of it, the evidence supports either of the above arguments. To understand the effects of depreciation, it is necessary to examine the whole problem in more detail. For example, to measure the beneficial effects of exchange depreciation in England requires some knowledge not only of the movement of export and import prices within the country, but also of the changes that occur in the volume of trade, the condition of business, and employment. Furthermore, a satisfactory answer is needed to the question of whether the continued decline of prices in the countries remaining on gold can be ascribed to independent forces operating inevitably because of the stage of depression in which the world found itself, or to pressure arising from exchange depreciation. For if the world was about to enter a recovery phase and was prevented from doing so because of the depressing effects of currency depreciation, the gains derived from the depreciation would be zero or even negative, since all countries, including those adopting depreciation, would have participated in the general recovery.

The consequences of the depreciation of sterling. England provides a specific example of exchange depreciation by a powerful country. Between September 1931 and March 1933 the depreciation of the pound in terms of gold amounted to between 25 and 30 per cent. Even assuming that, before its depreciation, the pound was overvalued by about 10 per cent, it is possible that it was somewhat undervalued afterward. What, we may ask, were the effects of this depreciation upon world prices? First, the depreciation of the pound had no adverse effect upon prices in the countries that comprised the Sterling Bloc, for their currencies were allowed to depreciate as much as or more than the pound. Therefore, the fall in value of the pound may properly be charged

not only with any deflationary effects in gold standard countries arising directly from the undervalued pound, but also with the added deflationary effects of the undervaluation of other currencies whose movements followed the pound.⁴

On the other hand, it is entirely possible that the progress of the depression in the world at large had resulted in a continuous tendency for the pound to become overvalued. Because England exports manufactured products whose prices and costs fall relatively slowly, it is possible that more rapidly falling prices abroad had the effect of continuously increasing the overvaluation of the pound. If so, the depreciation of the pound by 30 per cent need not necessarily have involved any great degree of undervaluation. It is possible to obtain indirect evidence of the existence of undervaluation of the pound after 1931 by observing what occurred to the foreign trade of the gold standard countries. An undervalued pound, for instance, must have meant an overvaluation of the dollar. Is there any evidence that the American economy was suffering from an overvalued dollar between 1931 and 1933? An examination of the foreign trade developments in the United States seems to show but few signs of overvaluation of the dollar at this time. For example, if the dollar were overvalued, there should have resulted a relative expansion in imports from countries having depreciated currencies, but the facts do not bear out this expectation. Between September 1931 and March 1933 there is little indication that the value of American imports from depreciated-currency countries was increased at the expense of imports from gold standard countries. Instead, the imports from depreciated-currency and gold standard countries fluctuated together as business activity fluctuated within the United States. Moreover, there is evidence indicating that the value of exports from the United States was but little affected by the depreciation of the pound. After September 1931, the fall in exports to countries having depreciated currencies was paralleled by a decline of about equal proportions in the value of exports to gold standard countries. True, the exports to gold standard countries fared slightly better than those to depreciated-currency countries, but hardly enough to indicate any serious deflationary effect arising from an overvaluation of the dollar in terms of the depreciated

⁴ See Gilbert, Milton, *Currency Depreciation*, Chapters IV and V, for an analysis of this.

currencies.⁵ This fact suggests that the heavy deflation that continued in the United States during 1932 was due primarily, not to the undervaluation of the pound, but rather to independent deflationary forces operating within the gold standard world and within the country itself. Nevertheless, it is highly probable that the depreciation of the pound did have some deflationary effects in the gold standard countries.⁶

The consequences of the devaluation of the dollar in 1934. The deliberate devaluation of the dollar may be contrasted with the depreciation occurring in other countries in that it was not forced upon the country by monetary strain or an adverse balance of payments. Instead, it was adopted with the idea that it might prove valuable as a means of raising domestic prices. Any gains, therefore, were necessarily limited to the advantage derived strictly from the improved competitive position resulting from a sharply undervalued dollar. The rapid rise in prices in the United States, following the abandonment of the gold standard and the undertaking of measures designed to cause the dollar to depreciate, has sometimes been taken to indicate that devaluation achieved its purpose. The movement of prices of farm products, exports, imports, and wholesale and domestic commodities, and the relation of these price movements to the depreciation of the dollar may be clearly seen in Chart 31. It is plainly apparent that the prices of import and export commodities rose with the fall in the exchange value of the dollar. But it is equally clear that their response was almost wholly limited to the first four months of depreciation. The further depreciation of the dollar that accompanied the gold-buying policy and the final action of devaluation, between August 1933 and February 1934, was at least of the same

⁵ Gilbert, *op. cit.*, pp. 96-98.

⁶ Cf. Gregory, T. E., *The Gold Standard and Its Future*, 3rd ed. New York, E. P. Dutton & Co., 1935, pp. 72-73, where he says, "The high hopes entertained that Great Britain's exports would be greatly stimulated have hardly been borne out by facts. The special disadvantages of an uncompensated higher cost structure had indeed disappeared, but the cumulative effects of continued world depression, tariffs and quotas, and the imitation by other industrial competitors, especially Japan, has severely limited the direct gain to this country. Since there can hardly be any doubt that the depression has been prolonged by the uncertainties and difficulties caused by the interferences with the free flow of international trade, there are no indirect gains. At best it might be argued that Great Britain has been able to snatch a rather larger share of a greatly shrunken aggregate. Against this possible advantage must be set the fact that Great Britain's action was a considerable factor in producing that complex of governmental actions which have impeded recovery." Quoted by permission of the publishers.

magnitude as that of the March-July period. But during the later period, no comparable change in import and export prices occurred. Furthermore, domestic goods also participated in the immediate rise in prices, although they were not exposed to any direct stimulation from the cheapening of the foreign exchange value of the dollar. It seems probable, therefore, that the price movement that developed in the United States after March 1933,

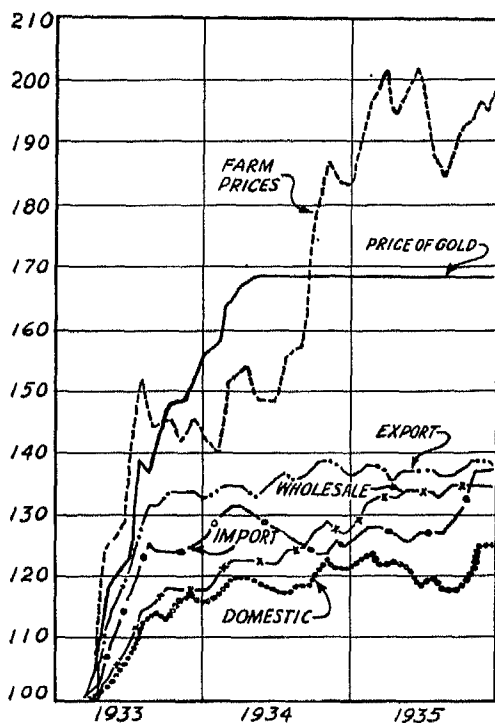


CHART 31. UNITED STATES PRICE INDEXES. March, 1933 = 100. Source: Gilbert, Milton, *Currency Depreciation*, 1939, p. 124. Reprinted by permission of University of Pennsylvania Press.

was in the nature of a cyclical upswing rather than a result of the depreciation of the dollar. Without question, the abandonment of the gold standard at that time set the stage for the Administration's inflationary efforts, but the general upswing of prices, including domestic prices, which terminated sharply in August and was not continued as the dollar was further depreciated, supports the view that the price movement was primarily cyclical in nature.⁷

⁷ Cf. Gilbert, *op. cit.*, pp. 117-129.

As a recovery measure, the depreciation of the dollar was of doubtful value. Unlike the depreciation of the pound, it was not needed to correct an overvaluation of the domestic currency, and operated to overvalue the currencies of the countries that remained on the gold standard. The latter were driven in self-defense to impose new restraints on imports and to adopt drastic deflationary policies. Even so, their gold supply was constantly in danger, and the expectation that sooner or later they would have to follow the United States into currency devaluation exposed their exchange rates to a speculative flight of capital that aggravated an already difficult position.⁸

In evaluating the general effects of exchange depreciation of the 1930's, Professor Harris, who has made an exhaustive study of the problem, concludes that, on the whole, it probably did more good than harm, and that it helped rather than hampered economic recovery.⁹ He bases his conclusions upon the fact that depreciation sheltered countries practicing it from the declining price trends in the gold standard world, and gave them some competitive advantages due to undervaluation. In a world filled with price rigidities, he believes that depreciation is a less objectionable manner of meeting the difficulties of world depression than is deflation. He found that the abandonment of gold and the depreciation of the currency were accompanied by an expansion in world trade and an improvement in the cost-price structure within the countries that tried it. Because of the close trade relations among the countries that left the gold standard, their economic revival expanded the trade among themselves. Their capture of an increased share of the world's total trade was more the result of an expansion of trade with each other than a gain at the expense of the gold standard countries. Nevertheless, some gains were realized by paper standard countries at the expense of countries remaining on gold.

RESULTS OF DEVALUATION IN 1949

Unlike the devaluations of the 1930's, those of 1949 were not designed for combatting unemployment and depression. Rather, the critical need was for closing the gap between purchases from

⁸ *Ibid.*, pp. 148-150.

⁹ Harris, *Exchange Depreciation*, pp. xxii-xxiii.

and sales to the dollar area. Therefore, the urgent question was the extent to which devaluation could contribute to the elimination of the dollar shortage.

If pushed far enough, currency depreciation can hardly avoid bringing about a correction of the dollar shortage. It encourages exports to the dollar area both by making it profitable for exporters to switch exports from existing markets in the soft-currency areas to the United States, and with adequate domestic restraints against inflation, by diverting a larger fraction of the domestic output from domestic consumption. At the same time, depreciation in terms of the dollar must reduce imports from the dollar area. This change may be brought about both by diverting import demand away from the more expensive dollar market into other possible sources of supply in soft-currency areas and by a general over-all shrinkage of imports. This is not to say that depreciation will provide a palatable and satisfactory cure for the dollar shortage. Indeed it probably will not. At a time of full employment, exchange depreciation may well cause a reduction in employment and a considerable degree of economic dislocation. Consequently, it is not hard to see why Britain adopted devaluation of the pound in 1949 reluctantly and with reservations as to the outcome.

In the last analysis, the success or failure of devaluation must be judged on the extent to which it is able to restore equilibrium and eliminate the dollar shortage by expanding exports rather than by reducing imports. If, after the Marshall Plan and other aid is terminated, England and Western Europe are compelled, through devaluation, to reduce imports to the point where unemployment and falling output are the final outcome, devaluation will be considered to have failed. Many gloomy forecasts are based on the premise that exports to the United States cannot be expanded by devaluation because our demand for foreign goods is inelastic; *i.e.*, our purchases expand less than in proportion to a cut in price. Hence, it is argued, Britain, for example, cannot possibly expand the value of her exports to America by lowering her prices through devaluation of the pound. This indeed is a most pessimistic view. In answer, one can say only that events may disprove the premise of the inelasticity of our demand for British and Western European exports. Much has been said of the necessity for foreign producers to study and cultivate the American market. This

effort, more than mere price reduction through devaluation, may be expected to tap new reservoirs of American demand. Devaluation of foreign currencies in terms of the dollar provide a very real incentive for foreign producers to cultivate American markets more energetically. The bonus in pounds accruing to a British producer who expands his sales to the United States will surely encourage him to make an honest attempt to switch a larger fraction of his output from the previously more profitable domestic and soft-currency markets. It is not too much to believe, therefore, that a substantial improvement in exports to the United States can and possibly may occur.

The second basis for gloomy forecasts in respect to the results of devaluation is that Britain and Western Europe must have the imports from the Western Hemisphere and any reduction of imports arising from devaluation can only cause a corresponding decline in consumption and industrial output. To some extent this argument is valid. Particularly is it true because of the impossibility of drawing foodstuffs from the surplus producing areas now behind the Iron Curtain. Clearly, hope for good results from devaluation depends more on the ability of Britain and Western Europe to increase their sales in our markets than through reducing their purchases from us.

Perhaps one last word should be added in respect to the danger that price increases within the countries that have devalued their currencies will wipe out any possible gains. This danger is of course a genuine one. Should labor insist upon and get increases in wages commensurate with the rise in the cost of living growing out of the increased costs of goods imported from the dollar areas, the gains from devaluation would be lost. For there is no gain-saying the fact that devaluation for the purpose of restoring equilibrium in the balance of payments, when stripped of its monetary trappings, turns out to be one device, among several possibilities, by which a nation may tighten its economic belt, reduce its level of consumption, and live within its real income. Its only merit is that it offers a way to bring this about without going through the tortures of acute deflation or submitting to a constantly increasing battery of government controls over economic activity.

Questions for Study

1. Can you explain why currency depreciation was so generally adopted in the Great Depression?
2. Why is currency depreciation or devaluation sometimes called a "beggar my neighbor" policy?
3. How would a country go about depreciating its currency if it were (a) on a paper money standard, (b) on the gold standard?
4. Under what conditions is currency depreciation most likely to stimulate domestic employment?
5. The United States devalued the dollar in the belief that it would aid in raising domestic prices.
 - a) What general conditions are needed for such a result?
 - b) Does Table 30 indicate that wholesale prices of a depreciating country are likely to rise proportionately?
 - c) What reasons can you give for expecting only a slight response in the United States price level?
6. Do the figures in Table 30 indicate the possibility of considerable expansion of exports due to depreciation? How does Harris explain the lack of complete adjustment to depreciation of import and export prices?
7. Examine Chart 30. Does it prove anything about the results of exchange depreciation?
8. What indirect evidence is there that the depreciation of the pound in the early 1930's did not seriously undervalue the British currency?
9. Examine Chart 31. What does it indicate as to the probable effect of the devaluation of the dollar upon the domestic price level?
10. How were the reasons for currency devaluation in 1949 different from those of the 1930's?
11. Can you evaluate the possibilities for success of the 1949 devaluations as a remedy for the dollar shortage?

Part VIII

War and Postwar Problems of Prices and
Currency Stability

War and Prices

The increase in governmental expenditures. The outbreak of war normally brings an almost immediate increase in the expenditure of the central government. Mobilization expenses must be met; troops and supplies must be transported; payrolls mount as increasing numbers of men are put under arms. Old training camps must be enlarged and new ones built; guns, munitions, airplanes, uniforms, food, and other equipment must be swiftly obtained; the navy must be strengthened. Strong nations frequently find it necessary not only to equip their own armies and navies, but also to assist in supplying the sinews of war to weaker allies. Only when the war is small in scale and of short duration can it be carried on without a marked increase in governmental spending.

The volume of governmental spending involved in a serious and prolonged war, therefore, creates difficult problems of public finance. This is true whether the government purchases its supplies in open competition with private individuals or whether it commandeers the operations of industry. One may visualize the seriousness of the problem of financing a war by observing the magnitude of the money expenditures of the United States during the four war years, 1942-1945. During that period the Federal government spent approximately 310 billion dollars, 280 billions of which was for war purposes.

To finance its war expenditures the government both increased its tax levies and its borrowing. During the years of the war, government borrowing amounted to about two-thirds of the total government expenditures.

WHY BORROWING IS INEVITABLE DURING WARS

There are a number of reasons why financing modern wars involves heavy borrowing. These reasons include:

1. Taxation is too slow to enable the treasury to obtain necessary funds to meet the immediate needs. The levying and collection of new taxes involves a considerable amount of time, and war requirements cannot wait. Borrowing must therefore be used to bridge the gap between the time when funds are needed and the time when new taxes can be collected.
2. Actual fiscal requirements cannot be estimated accurately in time of war. War budgets commonly turn out to be too small. Therefore, in spite of a well-worked-out taxation plan, some resort to borrowing is generally necessary to supplement tax income in order to meet unforeseen requirements. Furthermore, borrowing the current money savings of the public is almost certain to prove too slow to meet the urgent requirements, and resort to an expansion in bank credit can hardly be avoided. To tie down expenditures during a war to the limits set by the government's ability to levy and collect taxes and to sell bonds to investors would be definitely undesirable. The cost of delay in a program of appropriate military action may easily be so great as to outweigh entirely the inflationary consequence.
3. Psychologically and politically, it is more expedient for the government to borrow funds than to extract them by taxation while the war is in progress.
4. Closely related to reason (3) is the desire to postpone the final allocation of the costs of the war until the actual hostilities are over. This does not mean that domestic borrowing actually postpones the costs of war. Obviously, this cannot be so. More funds can be extracted from the community, however, with less complaint by borrowing than by taxation.
5. There is a definite advantage in expanding the quantity of money by inflationary borrowing during the time when an expansion of physical output is being sought.

WHY IS BORROWING INFLATIONARY?

So long as the government borrows only from private savers, institutional investors utilizing current savings, savings banks, and savings funds of commercial banks, no monetary expansion results and the process is noninflationary. But when borrowing is of the magnitude of that of World Wars I and II, such noninflationary sources will hardly satisfy the need and some resort to expanding

bank credit becomes inevitable. Consequently the total money supply (currency outside of banks plus adjusted demand deposits) expanded by 53 billion dollars during the war years, 1942-1945. This constituted an increase of about 115 per cent.

Although both world wars led to sharp increases in the supply of money and credit, it is worth noting that the process of expansion took different forms. Reliance upon bank credit to finance the sale of United States government securities during 1917-1919 took two forms. First, the banks themselves were expected to absorb their "quota" of new issues being offered. Pressure was brought to bear upon the bankers in order to assure satisfactory participation by their institutions. Second, individual purchasers were encouraged to subscribe to bonds in amounts beyond their current ability to pay and to make up the difference by borrowing at the banks on the collateral of the bonds. Banks were urged to lend to subscribers at rates no higher than the interest rate on the bonds. It was expected that subscribers to the bonds would be able to work off their bank loans out of income before the next issue was placed on the market, a process made easier by the credit inflation of which these borrowings were a part. To make certain that bonds bearing low rates of interest could readily be sold, money rates were kept low by giving the banks access to reserve bank credit at favorable rediscount rates. Member banks were encouraged to rediscount "war paper" (customers' notes given to finance the purchase of government securities), whether received from the member banks' own customers or received from a non-member bank. They were also encouraged to borrow at the reserve banks on 15-day collateral notes secured by government bonds.

During 1942-1945, the process was different. Attempts were made to sell government securities to nonbank investors. Some issues were made ineligible for bank purchase, and others could be subscribed for by banks only in amounts corresponding to their time deposits. Moreover, banks were discouraged from lending to individuals to finance their subscriptions to new issues. Nevertheless, a large volume of government obligations, particularly those with shorter maturities, were acquired by the banks during the war. Banks were able to acquire an abundant supply of additional cash reserves by the sale outright of short-term government obligations to the Federal Reserve Banks. This practice was in

contrast to that of banks of rediscounting "war paper" during the first war.

IMPORTANCE OF MONETARY EXPANSION DURING WARS

At the beginning of World War II, the American economy was far from a full employment level. It became most important, therefore, to expand employment and output to the maximum. This necessitated a sharp increase in the income flow, since an expanding employment level could hardly be achieved otherwise. This increase, of course, required some monetary expansion. Thus an expansion of bank credit based upon government borrowing provided the required monetary supply needed for a rising flow of money income. This rise in money income made possible the wage and price incentives required to expand employment and output.

But wartime monetary expansion is by no means an unmixed blessing. Gradually, as the war economy gets fully under way, the peacetime slack is taken up and output approaches a maximum level. But deficit financing of war expenditures continues to create an expanding supply of money that can no longer be matched by an increased flow of goods. The resulting "inflationary gap" between the income flow and the value of current output at *existing prices* puts heavy pressure upon the price level. Under normal conditions, this gap is quickly closed by rising prices as the increasing money income is spent. Avoidance of an inflationary price spiral built upon this expanding money supply thus becomes a major wartime problem.

AVOIDANCE OF PRICE INFLATION

The objectionable features of price inflation make it highly desirable that the inflationary results of war finance be minimized as far as possible. There are three avenues of approach to this problem. The first is by avoiding an expansion of the means of payment. The second is by expanding output of goods wherever possible. The third is by outright control of prices. We shall examine each of these in turn.

Prevention of an expansion in the quantity of money. The most obvious way to escape monetary inflation is to avoid budgetary deficits by a prompt and drastic program of taxation. This, however, is the counsel of perfection, which can hardly be followed

by a government confronted by the gigantic task of marshalling its full resources for war. Assuming, then, that a government at war is almost certain to depend upon borrowing part of the funds it needs, are there any ways to prevent such borrowing from becoming inflationary? It is possible to resort to some form of compulsory saving that will enable the government to borrow out of the current incomes of its citizens. One method is a drastic rationing of consumers' goods, which frees a large part of the consumers' incomes for investment in government securities. Government loans that are subscribed entirely out of income thus saved are strictly not inflationary. The same result may be accomplished in another way without dependence upon rationing of consumers' goods. Income payments might be diverted at the source; that is, part of an individual's income would not be paid in cash, but instead would be transferred directly to the government in exchange for government bonds, which would go to the individual in lieu of part of his cash income. In this manner, consumption would be curtailed and the remainder of the national income would pass directly into the hands of the government. The income receiver would receive a claim against future taxes in his government bonds.

In the absence of some such methods as those just described, government deficits are almost certain to lead directly to some credit expansion. Even so, it is still possible and highly desirable to minimize the inflationary consequence by placing barriers in the way of private business inflation. One method of holding business investment in check is to maintain interest rates at a high level. Thus, new and speculative investment borrowing may be kept within due bounds, and some of the extreme, inflationary results of war finance may be avoided. But there are serious obstacles in the way of a high discount rate policy at such a time. First, the Treasury desires to float a large volume of government securities at as low a rate of interest as possible. Its influence, therefore, inevitably is thrown on the side of low rather than high interest rates. Second, there arises the question of the effect of high rates of interest upon the expansion of those industries necessary for the prosecution of the war. Any slowing down of necessary industrial effort is clearly undesirable. Therefore, however salutary the probable effect of high interest rates upon the non-essential industries, there is scant possibility of their adoption as a

part of wartime policy. Inflation in the nonessential industries must therefore be held in check by other methods. Such methods include the rationing of capital and of materials. So long as the nonessential industries are not permitted to have access to the capital market or to purchase scarce materials needed for essential industry, they are not in a position to contribute greatly to an inflationary movement. Finally, the most important source of wartime inflation is unlikely to be seriously affected by a high interest policy. Whether interest costs are high or low, the government demands for borrowed funds to prosecute the war must be met. There is little reason to believe that voluntary saving will show any very marked response to higher rates of interest. Therefore, the net result of a tight money policy is likely to be an increased cost of financing the war with little restraint upon the expansion of money incomes.

EFFECT OF PRICE CONTROLS AND RATIONING

There are two main reasons for the use of price controls in time of war. First, some critical commodities are made relatively scarce because of war requirements. Without control over such commodities, prices would rise sharply. For example, during the first four months of World War I, before price controls were started, the index of metal prices rose 34 per cent, foodstuffs in general rose over 17 per cent, and wheat rose 30 per cent.¹ Such price increases are undesirable for a number of reasons: (1) They encourage commodity speculation and hoarding and thus tend to withhold badly needed supplies from the market; (2) they unnecessarily increase the cost of the war; and (3) they cause large wind-fall profits to accrue to those fortunate enough to possess stocks of the scarce goods or facilities for producing them. Moreover, although high prices are useful in stimulating an expansion of output of scarce and needed commodities in the long run, they are inadequate to induce the rapid and wholesale conversion of industry to war production in the time required by the emergency of war. Instead, recourse must be had to compulsion in some form. This may take the form of priorities and allocations of scarce materials and even the threat of outright commandeering of industry for war purposes. It is the need for price control over

¹ Baruch, Bernard M., *American Industry in the War*, 1921, pp. 70-71.

scarce commodities that is the basis for the belief, advanced and acted on at the beginning of World War II, that "selective" price controls were all that were needed.

The second need for price controls arises out of the "inflationary gap" mentioned earlier. The constantly rising flow of money income, resulting from continuing deficit financing, can be absorbed in only two ways. First, prices in general may rise, creating all the evils and disturbances that accompany general price inflation. Under these conditions the price spiral tends to become higher and higher and lagging taxes account for a smaller fraction of increasing government expenditures. This means that a greater volume of government borrowing and hence a greater monetary expansion would occur than would be necessary if prices were held in check. The second and more desirable way of absorbing the excessive money income flow is to hold prices down and compel income receivers to accumulate the excess as cash savings. This method has the further advantage of making it easier for the Treasury to sell noninflationary savings bonds to the public.

In order to minimize the over-all inflationary effects of the constantly rising money supply it is necessary to impose rigid over-all ceilings on prices and to accompany them with strict rationing or allocation of goods in short supply. Wartime price controls present a multitude of problems that we need not consider here. It is sufficient to note that so long as there exists a general public acceptance of controls as a war necessity, price controls achieve their main purpose. For example, the wholesale commodity price index stood at 98.8 during 1942 and had risen only to 105.8 for the year 1945. Similarly consumers' goods prices were 116.5 in 1942 and rose to 128.4 for 1945. To be sure, these figures cannot be taken entirely at face value. They do not allow fully for quality deterioration that occurred, nor for the dealings in the black markets. Nevertheless, price controls did accomplish their main purpose of holding prices in check and minimized the inflationary spiral.

The benefits of price control. The use of price control during war has a threefold benefit. First, it avoids, in large measure, the distortion of real income distribution likely to result from general price inflation. Rationing of consumers' goods assures low income receivers of their fair share. At the same time, price con-

trols help to avoid excessive windfall profits arising from lagging costs. Furthermore, they minimize work stoppages arising from strikes. In the second place, price controls help minimize the cost of the war. As a result, the postwar debt burden is much less than it would otherwise have been. Third, the postwar inflation problem is eased by price control. Price control over goods purchased by the government obviously reduces the need for inflationary borrowing while the war is in progress and therefore reduces by that much the inflationary potential of cash hoards. Therefore the country enters the postwar period with a very much smaller supply of money than would have been the case without controls. Consequently, in spite of the rise in prices certain to follow the termination of price controls, the magnitude of the rise is still much less than that which would have occurred had there been no price control during the war.

PRICE MOVEMENTS AFTER WARS

There are good reasons, both in theory and experience, to expect some price inflation to follow war. In fact, such an inflation occurred throughout the world after World War I. Moreover, in spite of dire predictions of serious postwar unemployment, World War II was followed by a serious inflation of prices. The reasons for this are not difficult to see. First, the inflationary potential existing in the form of cash savings is released with the relaxation of controls. This flood of cash, coupled with an accumulated shortage of durable consumers' goods, puts heavy price pressure upon the limited output. Encouraged by the high level of consumer spending, businessmen seek additional funds for expansion by borrowing at the banks. This borrowing adds still more to the money income stream and puts further pressure upon the price structure. Moreover, in many countries, governments find difficulty in bringing budgets into balance and this causes added inflationary borrowing. Under such conditions it is fruitless to argue that rising production will provide an effective brake to inflation. Rather, unless price controls are continued for a substantial period after the war, it seems inevitable that a boom of substantial proportions will develop, to be followed by a cyclical collapse. Basically, the reason for war and postwar inflation lies in the unwillingness or inability of governments to raise most of

their necessary funds by taxation and noninflationary borrowing once a high level of wartime output has been achieved.

Questions for Study

1. Why is it inevitable that governments borrow during wars?
2. Why, in practice, is war-time borrowing generally inflationary? What measures were taken to avoid, somewhat, the inflationary results of borrowing during World War II? What do you think of the proposal for compulsory savings through pay roll deductions?
3. To what extent was monetary expansion useful during the early months of World War II?
4. Why is it easy to justify a low interest-rate policy during wars? Under such a policy what steps are required to prevent undue private investment?
5. What reasons can you give for selective price controls? Why did they prove inadequate?
6. In general, how successful were efforts to control prices during the war? What sound reasons can you give for such attempts?
7. It has been argued that war-time price control only postponed and did not reduce the ultimate magnitude of price inflation. Can you refute this?
8. Why are postwar periods so often characterized by inflation?

Monetary Problems of Postwar Periods: After World War I

SOME OF THE MONETARY CONSEQUENCES OF WAR WERE EXAMINED in the preceding chapter. We saw that in spite of rationing and price controls strong inflationary pressures are inevitably built up that continue into the postwar period. These inflationary pressures, in the form of an expanded volume of money, cause sharp price level increases if price controls are promptly lifted after hostilities cease. If, on the other hand, controls over prices are continued, stresses and strains and economic dislocations arise, partially due to the inflationary pressure. In either event, the currency problem of a country becomes of great importance in any attempt to restore normal economic conditions.

Dual nature of postwar monetary problems. Monetary problems following a war involve two main questions. The first is how to deal effectively with domestic inflation. The second involves the establishment of satisfactory relationships between the domestic and foreign currencies so that trade with other nations may be carried on effectively. The second question, obviously, cannot be entirely divorced from the first. For stabilization of the foreign exchange values of a country's currency requires first the introduction of a reasonable degree of stabilization of the currency's home value.

Stabilization after World War I. After World War I, there was almost unanimous agreement as to the proper solution of the stabilization problem. The prompt restoration of the gold standard became the core of current monetary policy of the times. The widespread support of the return to gold is readily understandable

in view of the long and generally satisfactory experience with the international gold standard before 1914. A restoration of the gold standard at the earliest possible time after the wartime interlude, therefore, seemed clearly indicated as the proper policy.

THE RETURN TO GOLD AFTER WORLD WAR I

A few voices were raised against the return to the gold standard after World War I. J. M. Keynes argued that stability of foreign exchange rates offered by the international gold standard might well exact too high a price in the loss of England's opportunity to seek domestic price stability through an independent currency. Nevertheless, the advocates of the return to gold won out and by 1928 almost the whole world had been brought back into the world gold standard.

Deflation vs. devaluation in re-establishing gold. Because of the absence of the leveling influence of the international gold standard, prices of the several countries had risen unequally during the war years, and after the postwar boom and collapse, stood at widely different levels. Then, as now, the power and prestige of the American gold dollar was tremendous. Restoration of the gold standard, therefore, required establishment of gold parities for the various currencies that would provide exchange values in terms of the dollar, tolerably close to the equilibrium rate. Because in the postwar years the British price level was but little higher than that of the United States (in comparison with prewar prices) England, on May 13, 1925, restored the convertibility of the pound into gold at the prewar rate. Thus the pound-dollar exchange rate became again $\text{£}1 = \$4.86$. At the time, many Englishmen felt that a restoration of the old gold parity was highly important for the maintenance of the pound's international prestige. This consideration, they felt, outweighed the adverse effects of any possible overvaluation that might result. The unemployment that plagued England in the late 1920's, however, led to a widespread feeling that the pound had in fact become overvalued by the restoration of its old gold parity and that Mr. Keynes was right as to the doubtful merits of adhering to gold.

The price levels of other countries were often so obviously out of line with prices in the United States that attempts to restore the old gold parities were out of the question, because of the impossible degree of deflation that such action would have involved.

For example, the index of prices in France, in 1926, stood at 700 (1913 = 100), whereas prices in Germany at the end of the inflation in October 1923 were 1,380,150,000,000 *times* as high as in 1913.¹ Consequently, such countries *devalued* their currencies, that is, adjusted the gold parity downward so as to make the gold content correspond to the reduced purchasing power of the monetary unit. Germany restored gold convertibility in October 1923, by issuing a new mark, having the prewar gold value, and offering to accept in exchange one trillion of the old, inflated marks for one new gold mark. France stabilized the foreign exchange value of the franc in 1926 and officially restored convertibility on June 25, 1928, with a gold parity of 3.93 cents in American money. The subsequent favorable balance of payments that developed in France indicated that the new gold parity of the franc caused it to be undervalued somewhat in the foreign exchange markets.

THE ADEQUACY OF THE GOLD SUPPLY

The return to the gold standard by all of the important industrial countries of the world after World War I raised the question of whether or not the monetary gold supply was adequate to support the existing price level. In 1925, when England returned to gold, wholesale prices in the United States stood at a level approximately 50 per cent above the 1913 level. Could this price level, which might be taken as representative of gold prices in the world at large, be maintained in the face of the rising gold requirements of countries newly returning to the gold standard? During the 1920's there developed considerable interest in this question. The basis for this interest was the belief, widely held, that the long-run trend of prices is of great importance in determining economic well-being. More particularly, it is believed that a long-run declining level of prices is detrimental because it tends to result in longer periods of depression and shorter periods of prosperity than occur under stable or rising prices. If this positive relation between falling prices and the length of depressions is a real one, then it is vitally important that we know something about the probable trend so that appropriate measures may be taken to guard against undesirable results.

¹ Graham, F. D., *Exchange, Prices and Production in Hyper-Inflation; Germany, 1920-1923*, Princeton, Princeton University Press, 1930, pp. 105-106.

How calculate the gold output needed to provide stable price levels in a gold standard world? It may be correctly assumed that an expanding level of world production calls for an expansion in the monetary gold base if price levels are to have long-run stability in a gold standard world. Consequently, in the 1920's, a number of studies were made in an effort to discover the rate of increase in the monetary gold supply needed for long-run price stability. In general, the conclusion reached was that, historically, an annual compound rate of increase in the world's monetary gold of about 3 per cent had sufficed to maintain stable world gold price levels. Out of these findings grew the commonly accepted belief that in the future a 3 per cent annual increase in the monetary gold supply would be required to maintain prices at a stable level.²

Two developments since 1930 have made the analysis of the relationship of the annual gold output to world price levels academic rather than practical. The first was the collapse of prices that occurred during the depression of the 1930's. The second was the depression-born abandonment of the gold standard throughout most of the world. This abandonment of gold has been carried over into the postwar period and the prospects of any return to the old gold standard appear dim indeed. Nevertheless, the attempt to re-establish stable exchange rates in terms of gold, as embodied in the International Monetary Fund agreements, may, sooner or later, compel the world again to consider the question of the adequacy of its gold reserves and how to adapt itself to possible shortages and excesses. To be sure, it is unlikely that many countries will again tie their central banks rigidly to fixed minimum reserve requirements, which were so common before 1931. But the necessity of holding suitable and adequate amounts of gold reserves to maintain even short-term exchange stability may sometime make the problem of adequacy of the gold supply a practical one.

² Cf. Cassel, Gustav, *Theory of Social Economy*, New York, Harcourt Brace & Co., 1924, pp. 441-454. Also see Kitchen, Joseph, "The Supply of Gold Compared With the Prices of Commodities," League of Nations, *Interim Report of the Gold Delegation*, 1930. For a conclusion that the 3 per cent figure was excessive, see Hardy, Charles O., *Is There Enough Gold?*, Washington, D.C., Brookings Institution, 1936, p. 32.

THE BREAKDOWN OF THE GOLD STANDARD AFTER 1929

During the depression of the 1930's, the world very generally abandoned the gold standard that it had so carefully and painfully restored during the 1920's. What reasons, one may properly ask, lay behind this action? Fundamentally, the cause may be found in the difficulties that grew out of the depression. Not the least of these difficulties was the fall in the world level of prices.

The causes of the collapse in prices and the depression were complex, as are the causes of any cyclical decline. Nevertheless, attempts were made to explain the depression, including the decline in prices, in terms of the gold supply. Two main types of explanations based on the gold supply were offered: (1) those involving the belief that, in the aggregate, the gold supply was insufficient to maintain the postwar price level;³ and (2) those involving the belief that the decline in prices was caused by a maldistribution of a gold supply otherwise adequate.⁴

Although these explanations received considerable acceptance in some circles, the better view seems to be that the collapse of prices and the depression cannot be blamed upon either an accumulated gold shortage or its maldistribution. It is more useful, therefore, to inquire concerning other factors that contributed to the breakdown of gold.

Structural weaknesses of the gold standard of the 1920's. The painstaking effort to restore the international gold standard had hardly been concluded when a turn of economic events took place that swiftly led to its collapse and failure. In the summer of 1929, some recession in business appeared to cloud the horizon of American prosperity. It was the spectacular collapse of the stock market in October, however, that decisively marked the onslaught of a depression of overwhelming and world-wide proportions.

Three distinct causes contributed to the breakdown of the gold standard after 1929. The first was the structural weakness of the gold standard as re-established during the 1920's. The second was the unfavorable environmental circumstances that surrounded its operation. The third was the political resistance to severe de-

³ Cf. Warren, George F., and Pearson, Frank A., *Prices*, 1933.

⁴ Cf. *Report of the Committee on Finance and Industry*, 1931 (The Macmillan Report), p. 67.

flation, which appeared to be the price of remaining on gold at the old parities.

The structural weakness of the gold standard of the 1920's arose out of the widespread adoption of the gold exchange standard and the central bank practice of "offsetting" gold movements in the interest of domestic stability. Though by no means the exclusive cause, the gold exchange standard stimulated the appearance of foreign-owned short-term balances deposited or invested in the central money markets of important gold standard countries. Furthermore, its use reduced somewhat the corrective action of gold movements, because corrective effects were largely confined to the price and credit structure of the gold exchange standard countries.

Still more disturbing to the operation of the gold standard was the refusal of central banks to adapt their credit policy to gold movements and their pursuance of a policy of domestic stabilization. Before the general restoration of gold in the 1920-1925 period, little objection could be raised to such a policy when used by the Federal Reserve System. Later, the Bank of England and the Bank of France also attempted to manage the currencies of their respective countries in the interests of internal stability. Under these circumstances, the corrective effects of gold movements upon international price levels were largely lost.⁵

The environment of the gold standard of the 1920's. Not only were there important differences between the postwar and prewar gold standard, but there were also important changes in environmental conditions. These changes, which tended to increase rather than lessen the difficulties of maintaining an international gold standard, included:

1. A more troublesome international debt structure.
2. The great increase in foreign-owned short-term balances held in important money centers.
3. The irregular nature of international lending.
4. The growth of rigidities in the internal price and cost structures.

The international debt structure of the 1920's was heavily loaded with loans and obligations not originating in any expansion

⁵ For a detailed discussion of this point, see Gayer, Arthur D., *Monetary Policy and Economic Stabilization*, 1935, pp. 18-22 and 29-32.

in the productive facilities of the debtor. This was true of the intergovernmental war debts and reparations, and of many of the debts created after the war, when governments both of central Europe and of South America were borrowing for internal improvements of various kinds. These obligations constituted a constant threat to the balance of payments of the debtors. In contrast to what might be called "international consumption loans," loans made for productive capital purposes furnish the debtor with a basic means for debt service.

The use of the gold exchange standard encouraged central banks to carry reserve funds as deposits in foreign banks and as investments in foreign bills and acceptances. At the same time, other powerful forces were operating to encourage similar action by other banks and private investors. Immense losses on long-term foreign investments resulted from the war and from the postwar inflation period. France lost heavily owing to the repudiation of Russian debts after the Russian revolution; and, to avoid such losses in the future, French postwar lending was largely in short-term form. The total short-term international indebtedness was reported as being over $9\frac{1}{2}$ billions of dollars at the beginning of 1931. Whenever there arose any loss of confidence in currency stability, these short-term balances, readily shiftable at the will of the owners, were a constant menace to the debtor countries. To the extent that a country with a favorable balance of trade extended to buyers short-term instead of long-term credits, a loss of confidence in the credit position of the buying country not only shut off the possibility of additional loans but also acted to make due and payable the whole mass of past credits. The existence of such a large volume of short-term international debts left the balance of payments of the debtor countries so exposed that without large excess gold reserves, they could not hope to maintain gold payments in the face of any serious threat to their currencies.

The irregular nature of American and French foreign lending contributed something to the difficulties that beset the gold standard of the 1920's. The record of American lending appears in Table 31. When borrowing countries have adjusted their economies to a substantial inflow of capital from abroad, they are likely to experience some embarrassment when that flow is abruptly shut off. The immediate result of the stoppage of foreign capital imports is an adverse balance of payments that requires a consider-

able length of time, and possibly a substantial loss of gold, for re-establishment of equilibrium. Furthermore, when long-term lending was diminishing, short-term loans tended to increase. Although short-term loans temporarily relieved the pressure upon the borrowing countries, in all probability they were worse than nothing because of the pressure for their collection that arose with the onset of the depression.

TABLE 31

NET EXPORTS OF AMERICAN CAPITAL

(In millions of dollars)

	1923	1924	1925	1926	1927	1928	1929	1930
Net export of long-term capital	-30	733	560	540	695	718	319	290
Net export of short-term capital	- 3	-216	61	-359	...	226	-13	449
Net private capital exports, long- and short-term	-33	517	621	181	695	944	306	739

The gold standard requires enough price flexibility within the several countries to permit an adjustment of prices on a scale sufficient to maintain substantial equilibrium in the balance of payments. This flexibility is necessary if corrections of adverse trade balances are to take place soon enough to avoid excessive gold losses. In addition, not only prices of goods that move in international trade, but also their costs of production, must be flexible. This is especially necessary when an adverse balance of payments requires a reduction in prices. The extent to which costs of production decline readily determines the degree of business depression and stagnation that will be required. The greater the inflexibility of costs, the greater must be the business depression required to bring costs down into line with the selling prices necessary for a restoration and maintenance of equilibrium in the balance of payments. It follows that the greater the rigidity of costs, the more likely will governments be tempted to escape the troubles of deflation by abandoning gold payments. In fact, the political pressure for such action may at times be irresistible.

During the 1920's, there was evidence that the rigidities of costs and prices were becoming somewhat greater than before. In

England, for example, wage rates were difficult to reduce because of the combined effect of more powerful trade unions and the dole. In various parts of the world, price stabilization was undertaken in the interests of raw material producers. An example of this can be found in the Farm Board's activities in the United States, designed to maintain agricultural prices. Monopoly and near-monopoly conditions have increased with the continued growth of large-scale enterprise. The extension of the sphere of governmental activities, and with it the increase of government debt burden, tend to expand the inflexible tax burden of business. Any expansion of the field of regulation of prices and rates by government boards, such as occurs in the public utility field, adds to the list of prices that are inflexible in nature.

STEPS IN THE ABANDONMENT OF GOLD

One urgent problem confronting the world today is the re-establishment of multilateral trade with stable, free foreign exchange markets. This problem in essence closely resembles the problems related to the operation of the gold standard. Consequently, some light on present-day questions is shed by the events that compelled the abandonment of gold at the end of the 1920's.

*The raw-material producing countries.*⁶ The first break in the gold standard came in the raw material producing countries such as Argentina, Australia, and Brazil. Raw materials were already weakening in price in 1928 and the sharp fall that followed the onset of the depression created severe balance-of-payment problems for countries producing them. Moreover, such countries normally import capital (export securities) and the depression abruptly shut off capital imports thus adding to the balance of payment difficulties. Before the end of 1930, all three countries had abandoned the gold standard. A strong contributing factor in all three cases was the fact that exports of raw materials tended to have both highly unstable prices and an inelastic demand, whereas imports were mainly manufactured goods whose prices declined much more slowly than did prices of exports. Under the circumstances of acute, world-wide deflation and de-

⁶ Cf. Smith, Lawrence, "Suspension of the Gold Standard in Raw Material Exporting Countries," *American Economic Review*, September 1934, pp. 446-447. This article contains a good analysis of the situation in Brazil and in the Argentine as well as in Australia.

pression, countries in this position could hardly expect to succeed in restoring equilibrium in their balance of payments by internal deflation, for the goal was a moving and unattainable one. It is little wonder, therefore, that they sought escape in currency depreciation.

The breakdown of gold in England. Peculiar significance is attached to the abandonment of gold by England on September 21, 1931. Although a number of the smaller countries exporting raw materials had previously taken the step, the movement did not reach formidable proportions until England abandoned gold. Her action was the signal for a wholesale abandonment not only by the other parts of the Empire but also by a number of other important trading countries having close economic ties with England.

England was compelled to abandon the gold standard in September 1931. The immediate cause was the international banking panic, sometimes called the liquidity crisis, which began with the troubles of the Austrian *Creditanstalt* and the German *Nationalbank* during the May-July period of that year. Only strong measures, amounting to government guarantees, enabled these banks to survive. The banking panic in Austria and Germany was a prelude to the suspension of payments on Germany's short-term indebtedness (the Standstill Agreements). The immobilization of these short-term credits, a substantial part of which had been extended by London, created some distrust of the London money market.⁷ Early in 1931, the weakness of the British budget position had been exposed, and further signs of difficulty became evident with the rumors of discontent within the navy.

In the face of these uncertainties, foreign bankers attempted to protect their reserves by withdrawing their London balances in gold. Normally the Bank of England was able to control and check the outflow of gold by raising the discount rate. But the Bank Rate is effective in controlling the movement of short-term capital only when it functions in an environment of unlimited confidence. When suspicion as to the solvency of the banking system exists, interest rates become subordinated to security. During July 1931, the United Kingdom exported nearly £27,000,-

⁷ London's share was about \$255,000,000. Cf. Gregory, *The Gold Standard and Its Future*, 1935, pp. 56-59.

ooo in gold. During August, credits amounting to £130,000,000 were established with the Bank of France and the Federal Reserve Bank of New York. But the pressure on the available gold and foreign exchange reserves of the Bank of England was too great to be successfully withstood, and it ceased paying out gold on September 21, 1931.

Abandonment of gold by other countries. England's abandonment of gold was followed almost immediately by similar action on the part of other countries. The intimate trade relation between Sweden and Great Britain made the depreciation of sterling of vital importance to the export trade of the former country. Cheapening of sterling in terms of the Swedish krona was bound to have an adverse result on Swedish exports, of which 25 per cent went to Great Britain. On September 27, therefore, Sweden abandoned gold, and was quickly followed by Norway and Denmark. Finland left the gold standard on October 12, and Japan succumbed to heavy gold losses and suspended gold payments on December 13.⁸

Abandonment of gold by the United States. Despite substantial drains upon the gold reserves of the Federal Reserve System, arising from some flight from the dollar and from some internal gold and currency hoarding, the United States was amply able to maintain gold payments for the first fifteen months following the abandonment of gold by England and the Sterling Bloc in September 1931.

But the Administration reached the conclusion that its program of domestic recovery required that the domestic price system be freed from the deflationary influence of world gold prices. It therefore issued an Executive Order on April 20, 1933, which prohibited the export of gold save by the express authorization of the Secretary of the Treasury and for transactions necessary to "promote the public interest" as approved by the President. In effect, this order marked the end of the adherence to the gold

⁸ By April, 1932, the gold standard had been suspended in Argentina, Australia, Bolivia, Brazil, Chile, Denmark, Ecuador, Egypt, Finland, Greece, India, Iraq, the Irish Free State, Japan, New Zealand, Norway, Paraguay, Portugal, Rhodesia, Salvador, Spain, Sweden, the United Kingdom, and Uruguay. Furthermore, although not officially suspended, the gold standard was not in effective operation in Austria, Bulgaria, Canada, Colombia, Costa Rica, Czechoslovakia, Estonia, Germany, Honduras, Hungary, Jugoslavia, Latvia, Newfoundland, Nicaragua, Turkey, USSR, and Venezuela. Hodson, H. V., *Slump and Recovery, 1929-1937*, 1938, p. 92.

standard by the United States. Unlike England, which was forced off the gold standard by the exhaustion of its gold reserves, the United States abandoned gold deliberately and as a part of its domestic recovery policy.

*Abandonment of gold by the European Gold Bloc.*⁹ Led by France, which violently opposed currency devaluation, six European gold standard countries joined in an agreement of solidarity to preserve the maintenance of the gold standard at the existing parities. This action was taken in July 1933, after the abandonment of gold by the United States. In this group of countries were France, Belgium, Italy, the Netherlands, Luxembourg, and Switzerland. The maintenance of the gold standard with the old parities in the face of a depreciation of about 40 per cent in the pound and the dollar meant certainly an overvaluation of the Gold Bloc currencies in the foreign exchange markets. The result was a continuation of falling prices and credit deflation. During 1934, French wholesale prices fell 15 per cent.

The weakest of the Gold Bloc countries was Belgium, whose currency was exposed to intermittent rumors of impending devaluation that resulted in speculative pressure on the exchange value of the belga. Despite assistance in the form of foreign loans, the Belgian Government was unable to resist the pressure for devaluation. Internal deflation could not be carried through sufficiently to maintain the old gold parity, and the belga was devalued to 72 per cent of its old gold value at the end of March, 1935. Devaluation of the belga was successful in relieving, for the time being, the deflationary pressure within Belgium. It increased the difficulties of the remaining members of the Gold Bloc, however, and led to the flight of capital from those countries. Political changes in France required that attempts be made to reverse the deflationary trend. The Popular Front government embarked upon reforms that inevitably tended to increase costs of production, but for a time resisted as inflationary any moves in the direction of devaluation. On September 25, 1936, the French, British, and the United States Governments issued statements announcing the intention of the French Government to devalue its currency and pledging themselves to use appropriate means to

⁹ For a thorough discussion of the breakdown of the Gold Bloc, see Hodson, *Slump and Recovery, 1929-1937*, Chapters X and XI.

avoid unnecessary disturbances and competitive exchange depreciation. The same day, it was announced that the franc was to be reduced in gold value by from 25.2 to 34.4 per cent. Switzerland and the Netherlands devalued their currencies by a like amount on the following day. Italy had already abandoned gold for exchange control, so that, from this time on, the Gold Bloc was definitely at an end.

Questions for Study

1. What are the dual aspects of postwar monetary problems?
2. How were these problems attacked after the World War I?
3. Why did some countries devalue while others restored their prewar gold parities in the 1920's.
4. In the late 1920's, a number of attempts were made to estimate the annual rate of increase in monetary gold that would be needed to satisfy the monetary and credit requirements of a stable price structure:
 - a) What rate of increase was considered necessary?
 - b) Why was the question one of grave concern at the time?
 - c) Why has the question now become unimportant?
5. What explanations based upon gold were developed in the 1930's to explain the fall in prices and the great depression?
6. What were some of the structural weaknesses of the gold standard of the 1920's?
7. What environmental conditions were blamed for the collapse of the gold standard in the 1930's? What part was played by the variability of American foreign loan policy?
8. What countries led in the abandonment of gold at the end of the 1920's? Why?
9. Why did England leave the gold standard in September 1931? Why did the sterling area countries follow England's lead?
10. Why did the United States abandon gold in 1933? Were the reasons the same as those for England's abandonment of gold?
11. What was the European Gold Bloc? Why was it eventually broken?

Monetary Problems Following World War II

BY THE END OF THE 1930's, BEFORE THE OUTBREAK OF WORLD WAR II, the world's monetary systems fell into three main patterns. The first of these patterns included the countries both within and outside of the Sterling Area, which had abandoned the gold standard in favor of the freedom offered by independent paper currencies and flexible exchange rates. These countries imposed little direct control over foreign exchange dealings, being mainly content to maintain stability in a relatively free exchange market.

The second type of prewar currency was that which was no longer convertible into gold but whose foreign exchange value was maintained at a fixed level in terms of gold. Countries with this type of currency system commonly pursued a policy of economic expansion. Inevitably such a policy tended to make the currency "overvalued" in the foreign exchange markets. The consequent shrinkage of exports created such difficulties in the balance of payments as to require the imposition of strict exchange controls. Germany provided the outstanding example of this type.

Finally, there was the gold standard currency of the United States. Although the fixed gold parity of the dollar had been reduced, the free import and export of gold was permitted. Because it stood practically alone, the United States was free to adopt such price and credit policies as seemed best suited to its purposes.

The inflation of prices, 1939-1948. During World War II, currency inflation followed the usual wartime pattern. Because of the difficulty involved in making revenues rise as fast as expenditures, governments were compelled to borrow vast sums. Part of the borrowing was from the commercial and the central banks and resulted in a rising quantity of bank deposit and note currency.

The currencies of countries that were occupied by enemy forces were further disorganized by the addition of occupation currencies, whose issue bore little relation to the currency needs of the country concerned. The rigid price controls commonly used during the war aided in preventing prices from rising as they would have risen had controls been absent. Yet black market prices rose to fantastic heights, reflecting both a scarcity of goods in the legal markets and the superabundance of currency.

Some measure of the inflation during World War II can be obtained from the official wholesale price indexes of various countries shown below in Table 32. These index numbers fail to in-

TABLE 32
OFFICIAL WHOLESALE PRICES IN WARRING COUNTRIES *

	U.S.	Canada	United Kingdom	France	Italy	Japan	The Netherlands
1939	100	100	100	100	100	100	100
1940	102	110	133	132	116	111	124
1941	113	120	148	162	130	118	142
1942	128	128	154	191	147	127	149
1943	133	133	158	222	...	134	152
1944	135	137	161	252	...	150	156
1945	137	138	164	357	...	198	172
1946	157	145	170	617	...	1,031	239
1947	197	172	186	941	4,962	3,292	258
1948	214	204	212	1,630	5,233	8,973	267

* Yearly averages of prices computed from data appearing in the *Federal Reserve Bulletin*, October 1949.

dicade accurately the true extent of the increases in prices since they represent the "official" prices and do not allow for black market price changes.

THE POSTWAR INFLATION PROBLEM

Many of the monetary problems that plagued the world after World War I reappeared after World War II. Again, many governments seemed unable to bring their budgets into balance, and the resulting deficits brought continued inflationary pressure upon the price levels. With the gradual breakdown or removal of rationing and price controls, the currency expansion of the war years

burst from the restraints that had held it in check. It was little wonder, then, that acute inflation reappeared in the war-torn countries of Europe. Even the United States, which rapidly brought its budget into balance and reduced its government debt, did not escape the inflation movement.

The evil consequences of "hyperinflation," as it has sometimes been called, are of course well known. Speculation becomes a more absorbing interest than production. Important groups within the economy are impoverished and others are unfairly enriched. Moreover the inflation, when once under way, tends to become self-perpetuating because of the mounting difficulties of achieving a balanced governmental budget through adequate taxation.

The process of restoring internal stability after World War I was eventually achieved when budgets were brought into balance and internal inflation thereby brought to an end. This condition was accompanied by a restoration of gold standard parity, a step of especial importance in view of the inflationary consequences of exchange depreciation that arose out of the capital flight from France, Austria, and Germany. In general the stabilization of currencies in the 1920's was accomplished by putting an end to further currency expansion and providing for the conversion of the existing currencies into gold. The British pound was restored to its old gold parity; the French franc was given a new gold value of approximately one-fifth of its prewar value; and the German paper mark was made convertible at one-trillionth of its prewar gold value. Little attempt was made to reduce the volume of outstanding currencies as a means of raising their values before stabilization.¹ As we shall see, attempts to achieve currency stability after World War II have followed a somewhat different pattern.

The nature of the problem of internal stabilization. Since World War II, the problem of internal price and currency stabilization has been acute. The problem was made worse by the prolonged occupation of many countries and the accompanying

¹ For a notable exception, see the account of Czechoslovakia's efforts to increase the value of currency in circulation by blocking one-half of existing bank deposits and requiring all currency, except for notes of small denomination, to be turned in for stamping. One-half of the currency presented for stamping was withheld and converted into a 1 per cent loan to the State. See Rasin, Alois, *Financial Policy of Czechoslovakia*, 1923.

expansion of the currency. Furthermore, there arose a wide discrepancy between controlled official prices and prices in the black market. Controlled wages, tied to a level in harmony with controlled commodity prices, failed miserably to provide adequate incentives for work when fantastically high black-market prices diverted much of the available supply away from the legal markets. In Germany, barter transactions took the place of trade involving the use of reichmarks and by the spring of 1947, one-half of all commerce in the Anglo-American zone was reported to be on a barter basis.²

The attempts at currency reform, therefore, included calling in the old currency in exchange for which holders received varying amounts of new currency and "blocked" bank deposits.

Motives behind postwar monetary reforms. There were several motives behind postwar monetary reforms.³ First, there was the desire to reduce the spendable cash in the public's hands and thus compel people to seek employment rather than to live off old cash hoards or speculative operations. Second, there was the need to deprive the public of funds for purchasing goods in the black markets. Third, there was a wish to "photograph" or obtain records of the currency holdings of individuals and thus detect concealed wealth and make it available for taxation or a capital levy. Fourth, calling in and exchanging old currency for new provided a method of unifying the numerous types of currencies that were in circulation in some countries. In addition, since currency held in enemy countries could not be presented for stamping or exchange, such holdings were cancelled by the operation.

Steps toward monetary reform. The attempts to reform the currencies after World War II generally involved two steps. First came the blocking of existing cash and deposits of the public so as to take them from the actual or potential spending stream. The second step involved the disposition of the blocked funds. The second step was more difficult than the first for it involved the determination of how much cash should be released to care for legitimate business requirements at the level of prices sought to

² Cf. Klopstock, Fred H., "Monetary Reform in Western Germany," *Journal of Political Economy*, August 1949.

³ Klopstock, Fred H., "Monetary Reform in Liberated Europe," *American Economic Review*, September 1946, pp. 578-579.

be maintained. The release of too much purchasing power would nullify the anti-inflationary effects; too little would create economic deflation and unemployment.

The blocking process involved: (1) fixing a date before which all currencies to be blocked were to be deposited; (2) invalidating all currency not deposited by the stated deadline; and (3) blocking all bank deposits. After the blocking operation was completed, limited amounts of new currency and a fraction of the blocked deposits were released. Generally the exchange of new currency for old was at par with dependence upon blocking itself to bring about the desired reduction of the outstanding purchasing power. The release of blocked funds was carried out gradually, but generally a part was blocked permanently and earmarked for some form of special taxation or conversion into government securities. For example under the "Plan Gutt," the coins, bank notes, and bank deposits blocked in Belgium after its liberation in 1944 amounted to 155 billion francs. Of this amount, 57.4 billions were released at once, 39.1 billions were temporarily blocked but earmarked for gradual release, and 58.8 billions were permanently withdrawn and earmarked for absorption by taxation or conversion into government securities.⁴

In France, a somewhat different pattern was followed. In June 1945, it was announced that notes of all denominations of 50 francs or over were exchangeable, franc for franc, for a new issue. Neither the currency nor the bank deposits were blocked. Certain types of government bonds were required to be stamped or exchanged for new instruments. This "photographing" of the public's holdings of currency and state bonds facilitated an expected program of capital taxation.⁵ In this act of conversion the customary attempt to reduce the volume of currency was absent; therefore it could hardly have been expected to have any direct anti-inflationary consequences.

Monetary reform in Western Germany. Among the many currency reforms, that instituted by the Military Governments in Western Germany deserves special notice. The purpose of this reform was to shrink the currency supply to proportions appro-

⁴ Bareau, Paul, "Reconstruction in the Low Countries," *Lloyds Bank Review*, January 1947.

⁵ Snider, D. A., "French Monetary and Fiscal Policies," *American Economic Review*, June 1948, pp. 311-315.

priate for the productivity of the region. Specifically, as of June 21, 1948, all the old money, except that of a denomination up to one mark, was declared invalid. Deposits in banks were blocked for the time being. To provide an immediate supply of valid money 40 new marks per capita were paid out to individuals in exchange for an equal amount of the old invalidated marks on presentation of food ration and identity cards. Two months later, an additional 20 marks per capita were released. Business enterprises received advances of new marks for old in amounts of not over sixty marks per employee. All remaining old marks both in currency and bank deposits were required to be registered by June 26.⁶ On June 26, the Allied Military Governors of the American, French, and British Zones announced that old marks were convertible at the rate of ten old for one new deutsche mark. One-half of the new deutsche marks were credited to a "free account," which could be withdrawn at once. The other-half of the new marks were placed in blocked accounts for later release from time to time as economic conditions justified. Steps were also taken to prevent the conversion of funds arising from illegal earnings. Debts unpaid on June 21 could be settled by paying the creditor one new deutsch mark for every ten old marks due.⁷

The purposes behind the German currency reform were (1) to eliminate the black market profit; and (2) to reduce the volume of currency to a level where controlled prices would match existing purchasing power. The effects upon the economy of Western Germany were gratifying. Production for sale in regular markets again became profitable, and incentives to productive effort were markedly increased.

THE PROBLEM OF RESTORING MULTILATERAL TRADE

The breakdown of normal international trade which began during the depression years of the 1930's was accentuated by the outbreak of war, for the war not only caused a breach in the trade relations with enemy countries but also caused trade among allies to assume new forms and to take new directions. Consequently,

⁶ *New York Times*, June 19, 1948.

⁷ *New York Times*, June 27, 1948. Although each individual received 60 new deutsche marks in exchange for old, out of any additional holdings of old reichmarks he could convert at the 10:1 ratio only such amounts as exceeded 540 reichmarks. In other words, the 60-mark advance was charged against his conversion privilege. Cf. Klopstock, *Journal of Political Economy*, August 1949, *op. cit.*

the postwar period found international trade in a state of unparalleled confusion and dislocation. This situation was most unfortunate. Political reconstruction and stability depend largely upon the economic recovery of war-devastated countries. Economic recovery, in turn, calls for both internal currency stability and a revival of a healthy international trade.

In general, countries obtain the maximum benefit from trade that is multilateral in nature, since only through such trade can the advantages of international specialization be best realized.⁸ For multilateral trade, unlike narrow bilateralism, enables a country to sell in the best (highest priced) foreign markets and buy in the best (cheapest) markets. It does not require trade between each pair of countries to be equal. Instead, multilateral trade, functioning properly, merely requires that combined exports of one country to the outside world shall equal its combined imports. The advantages of multilateral trade of this sort can be readily appreciated if one looks at the trade of individuals in the domestic market. Normally an individual need not concern himself about attempting to equalize the amount of his purchases from and sales to another individual. Such action, indeed, would constitute an abandonment of the benefits of the use of money and a retreat to simple barter. So great are the gains from the use of money that barter will be used only when (1) the money system has collapsed (perhaps because of extreme inflation); or (2) economic dislocations prevent the individual from finding for his products purchasers able to offer adequate money payments.

The requirements for multilateralism. In both domestic and international trade, multilateral exchange requires an adequate supply of generally acceptable currency. Domestic trade requires enough domestic currency to enable the public to withstand the irregularities of incomes and expenditures and to carry on normal economic operations. Foreign trade requires an ample supply of *internationally* acceptable currency. Each country must have access to such currency in amounts adequate to meet the seasonal and cyclical irregularities in its balance of payments. Such currency may be called *international currency reserves*.⁹ These re

⁸ Some deny that general multilateral trade is necessary in order to obtain the greatest advantages from international specialization. Cf. Bernstein, E. M., "British Policy and World Recovery," *American Economic Review*, December 1945, pp. 892-893, for an examination of this view.

⁹ Cf. League of Nations, *International Currency Experience*, 1944, Chapter IV.

serves consist of internationally acceptable currencies of which a country may freely dispose to meet an adverse balance of payments. They include excess gold reserves of central banks, gold held by stabilization funds, and foreign currencies that are acceptable in other countries in settlement of foreign trade balances. Under the gold standard, settlements for multilateral trade could be made by shipping gold or by drafts on balances carried in gold standard countries. After 1931, the Sterling Area countries accepted pound sterling from each other in settlement of trade balances. Today, countries able to acquire adequate amounts of gold or American dollars possess a highly acceptable form of international currency reserves.

The breakdown of multilateral trade. In the 1930's, multilateral trade broke down because of balance-of-payments difficulties arising from the depression. To solve the problem of adverse trade balances, some countries attempted to obtain necessary imports by barter or bilateral trade. Since World War II, similar difficulties have stood in the way of a restoration of multilateral trade. Many countries have found it impossible to produce and sell abroad, for internationally acceptable currencies, enough goods to pay for their desired imports. In other words, they have been unable to acquire adequate amounts of international currency reserves to enable them to restore unrestricted multilateral trade. This difficulty was especially apparent in connection with the shortage of dollars and other "hard currencies."¹⁰ Actually, hard currencies, especially dollars and gold convertible into dollars, constitute the only generally acceptable international currency of the postwar period. The continuation of bilateral trading during this period largely reflects this dollar shortage.

Much attention has been given to the problem of restoring multilateral trade. The prerequisites for multilateralism include (1) a solution of the balance-of-payments problem of individual countries; and (2) the provision of adequate supplies of international currency reserves.

The consequences of war on the balance of payments. Countries at war, anxious to muster their maximum economic forces,

¹⁰ Hard currencies are those which are "hard to get" or for which the demand exceeds the supply. They include currencies convertible into gold and currencies of countries, mainly in the Western Hemisphere and Switzerland, whose exports are in great demand.

tend to restrict their commercial exports and expand their imports. Except for countries with unusual economic strength, like the United States, belligerents must pay for their excess of imports by exporting gold, liquidating readily saleable foreign securities, and borrowing abroad. Therefore, the end of the war found such countries short of international currency reserves, enmeshed in foreign exchange controls designed to prevent unnecessary commodity imports and capital exports, and a serious balance-of-payments problem. There were a number of reasons for the appearance of adverse balances of payments after the war. The shift to a war economy often involved a loss of old export markets, and the devastation of the war and its wastage reduced the capacity to produce for export. In addition, foreign investments that provided a source of income before the war were partially dissipated.

The British balance-of-payments problem. A good example of the postwar balance-of-payments problem is provided by Britain. During the war, Lend-Lease arrangements enabled her to acquire supplies from the United States without the necessity of providing equivalent exports. Thus she was able to divert a maximum part of her resources and effort directly to war purposes. This policy caused such a decline in exports that by 1944 their volume had fallen to 30 per cent of the 1938 level. The sudden end of the war in 1945, and with it the termination of Lend-Lease, found Britain with current exports greatly reduced from their prewar level at a time when she had an urgent need for normal imports of raw materials and food. The situation was made worse by the sharp reduction in earnings from overseas investments, from shipping, and from other services normally sold to foreign countries in the prewar period.

The change in Britain's balance-of-payments position is clearly revealed by the comparison between the years 1938 and 1947, which is given in Table 33.

The 1947 deficit of 675 million pounds was entirely owed to the Western Hemisphere and was payable in hard currencies, mainly United States and Canadian dollars. Expressed in dollars, it amounted to \$2.7 billion. Moreover, other members of the Sterling Area were permitted to draw upon the dollar pool to finance their current imports requiring payment in dollars, whereas, in accordance with the intent of the Anglo-American loan agreement, a number of other countries were allowed to con-

vert their current sterling into dollars. Britain was therefore called on to meet an additional drain from this source to the amount of \$1.4 billion. Altogether, then, in 1947, Britain was required to pay out about four billion dollars to meet her own

TABLE 33
BRITISH BALANCE OF PAYMENTS ON CURRENT ACCOUNT *
(in millions of pounds)

	1938	1947
<i>Trade:</i>		
Imports (f.o.b.)	835	1,574
Exports and re-exports (f.o.b.)	533	1,125
Adverse trade balance	302	449
<i>"Invisibles":</i>		
Government expenditure overseas	16	211
Net income from investments	175	51
Net income from shipping	20	17
Net income from other items	53	— 83
Income or loss (—) on invisibles	232	— 226
Over-all deficit	70	675

* *Labor and Industry in Britain, A Quarterly Review*, March 1948, British Information Services.

dollar deficit and that of other countries involved. This she did by (1) reducing the existing holdings of gold and dollars; (2) drawing on American and Canadian credits; and (3) drawing on the International Monetary Fund. Clearly, such payments were essentially "stop-gap" in nature and could not be relied upon as a continuous policy.

SOLUTIONS TO THE POSTWAR BALANCE-OF-PAYMENTS PROBLEMS

The balance-of-payments problem of Britain and other countries as well must be solved before necessary economic expansion and recovery can be properly realized. In some manner or other debit and credit items must be brought into balance. There are a number of ways of attacking the problem.

Curtailement of imports. One solution involves a rigid curtailment of imports until they no longer exceed exports. This may be accomplished by tariffs, import quotas, or exchange controls. But such a method is highly objectionable as an immediate solution because it sharply reduces the chances of a future rise in pro-

ductivity and an expansion of exports based thereon, for imports are largely foodstuffs and industrial raw materials. Without reasonably adequate amounts of both, economic reconstruction will be hamstrung. Clearly, then, unless a sizable quantity of *unnecessary* imports can be pruned away, there is little promise in this approach.

Internal price deflation. It is conceivable that a country suffering from an adverse balance of payments might reform its currency and impose *falling prices* upon its economy while maintaining exchange rates at their existing level. If politically practicable, such a policy might succeed in checking imports and possibly in expanding exports enough to restore the balance of payments to equilibrium. This method, indeed, is that required by the old gold standard. But such a solution would involve a shrinkage of both the domestic and foreign trade level at a time when the crying need is for output expansion. Hence price deflation as an attempted solution would be highly unsatisfactory.

Exchange depreciation. Another available solution is exchange depreciation. This device may be used to check imports and to expand exports. But so long as the limiting factors on exports are lack of raw materials and inadequate productive facilities, rather than high prices, such a corrective can offer no real gain. So long as the sellers' market continued in the postwar world, exchange depreciation was an undesirable tool for correcting an adverse balance of payments. Instead of being a benefit it would have unnecessarily worsened the "terms of trade" with the outside world by raising the cost of imported goods and raw materials while reducing the returns from exports at a time when all exports could be easily sold if they could be produced.¹¹ But

¹¹ This conclusion of course assumes that the internal problem of diverting current output from the high-priced domestic market into export channels could be accomplished without exchange depreciation.

For a strong denial that exchange depreciation is a useful and acceptable method of attacking the adverse balance of payments problem of postwar England and Western Europe, see Thomas Balogh's "Exchange Depreciation and Economic Readjustment," *The Review of Economics and Statistics*, November 1948. He holds that neither of the two most important probable causes of adverse balances of England and Western Europe with the Western Hemisphere can properly be overcome by exchange depreciation. First, the "structural changes" in the productive facilities of the various parts of the world, which occurred during the war, have put the United States far ahead in efficiency and competitive advantage in world markets. Exchange depreciation, he holds, would merely permanently depress the income levels of the less fortunate countries. Only protective devices such

in September 1949, Britain, the other Sterling Area countries, and Western Europe sharply devalued their currencies in terms of the dollar. Only time can reveal the extent to which this action will aid in correcting the dollar shortage. However, such evidence as is available indicates that the results have been at least partially successful. Countries which sharply devalued their currencies have experienced a substantial increase in the value of their exports to the United States as well as a sizable decrease in imports from the United States.¹² Not all of this can be credited to devaluation, however, for in some cases, notably the United Kingdom, additional restrictions were put upon imports from the dollar area.

Bilateral trade agreements. The crux of the postwar balance-of-payments problem lies in the adverse balance of Britain, Europe and other Sterling Area countries with the Western Hemisphere. The United States, Canada, and Latin America can provide an abundant supply of goods badly wanted by the rest of the industrialized world but they are unable or unwilling to import amounts sufficient to provide adequate amounts of dollars and other hard currencies. Consequently there has developed a chronic shortage of dollars. In other words, the balance of payments problem is to a very considerable degree one of dollar scarcity. Hence one solution is to seek imports from countries that do not require payment in dollars. To accomplish this Britain has negotiated numerous bilateral trade agreements with countries both inside and outside the Sterling Area, whereby certain amounts of raw materials and foodstuffs are to be provided in return for certain British exports. The power to make such

as discrimination and bilateral trade will enable such countries to re-establish their productivity through improved techniques and new industries so as to be able, ultimately, to compete in outside markets. Second, there is the danger that an economic slump in the United States will so check American imports as to impose an adverse balance upon other countries, which cannot successfully be met by exchange depreciation. The elasticity of demand for United States imports, in such a case, is likely to be too small to enable outside countries to expand the value of their sales to America by exchange depreciation. Moreover, exchange depreciation practiced by individual countries in an attempt to improve the balance of payments is likely to set off either competitive depreciation or a round of deflation in other countries. He quotes, with approval, the argument that devaluation, being a blunt and indiscriminate instrument, is less desirable as a method for correcting adverse balances than selective policies (*i.e.*, discrimination).

¹² Cf. "Changes in the Direction of Trade Since the Devaluations," *International Financial Statistics*, April 1950, International Monetary Fund, Washington, D.C., pp. 4-5.

agreements lies in the importance of British markets for the exporters of many raw material countries. Such a solution to the balance-of-payments problem is, of course, a step away from international multilateral trade and is doubtless inferior to a working system of multilateralism. But it is justified on the grounds that it provides trade that would not otherwise exist at all.¹³ In the case of agreements with other Sterling Area countries, some degree of multilateralism exists within the Sterling Area itself. American traders, of course, object to such bilateral trading agreements because they tend to reduce foreign purchases from United States sources.

Loans and grants. Finally, temporary aid may be given through international loans and grants. Such loans and grants in aid, sufficient to enable countries to rehabilitate their productive powers and re-establish their export markets, seem to offer the most promising short-run approach. Such aid provides a reasonable possibility that a long-run solution may eventually be achieved through expanding production and increased power to export instead of reduced imports, shrinking productivity, and economic stagnation. True, loans can provide only a breathing spell during which it is to be hoped that sufficient recovery can take place so that countries may again engage in multilateral trade on a self-sufficient basis. But there is no real prospect that such loans and recovery based upon them can restore at once the pre-war real income standards. Such restoration will necessarily involve a long and gradual process based upon increased productivity.

POSTWAR INTERNATIONAL LOANS AND GRANTS

Since the end of the war a vast amount of aid has been extended to foreign countries in the form of credits and outright grants. The United States has provided the bulk of this aid. By the end of 1947 it had extended credits of over nine billion dollars and outright grants of over six billions. Canada was the second largest lender by virtue of having extended over two billion dollars in postwar credits. Other important contributors to the supply of

¹³ For a good treatment of the purpose and nature of postwar bilateralism, see Judd Polk and Gardner Patterson, "The Emerging Pattern of Bilateralism," *Quarterly Journal of Economics*, November 1947. See also *A Survey of the Economic Situation and Prospects of Europe*, United Nations, Department of Economic Affairs, Geneva, 1948.

foreign loans were Sweden, the United Kingdom, Argentina, and Switzerland.¹⁴ Moreover, the American Foreign Assistance Act of April 3, 1948, authorized foreign aid of about six billion dollars during the following twelve months, with roughly five billion dollars assigned to the European Recovery Program. This program, intended to continue into 1952, may involve total expenditures of as much as seventeen billion dollars.

This great volume of foreign aid has been given both as humanitarian relief and as a means of promoting improved economic and political conditions. Starving, impoverished populations have required assistance to remain alive. In addition, enlightened self-interest has dictated the granting of aid for the economic recovery of Europe. Not only does the United States stand to gain from trade with a world restored to economic health, but also such a world promises to be a stouter bulwark against expanding Communism.

The ultimate test of the success of the foreign aid program is the degree to which countries are able to achieve economic recovery and solve their balance-of-payments problems through an expansion of trade. At the very least, it has helped relieve human suffering and has improved the chances that a genuine recovery may be realized. Much depends upon the reopening of the normal trade channels between Eastern and Western Europe and the ability of nations to reach some peaceful solution to the conflict of aims and interests between Russia and the West.

Some of the difficulties and uncertainties of achieving the long-run goals of the foreign aid programs are indicated in the disappointing experience with the 3,750 million dollar American loan to Britain of 1946. The credits established were expected to enable the United Kingdom to meet its foreign exchange requirements until 1951, by which time it was hoped that the necessary export expansion could be achieved to bring the British balance of payments into equilibrium. But because of a combination of circumstances, the whole credit was exhausted by March 1, 1948, leaving the balance-of-payments prospects in as bad a condition as before. The difficulty arose out of (1) a sharp and un-

¹⁴ For details see "Foreign Grants and Credits of the United States Government" in the *Survey of Current Business*, June 1948. Also see Kriz, M. A., "Postwar International Lending," *Essays in International Finance*, No. 8, Spring 1948, Princeton.

anticipated rise in the prices of goods bought in the United States without a corresponding rise in prices of British exports; (2) production troubles within Britain growing out of coal shortages and an unusually severe winter; and (3) an unexpectedly heavy drain upon the dollar resources of Britain because of an increase in imports from the Western Hemisphere by other Sterling Area countries. In addition, the terms of the Loan Agreement itself required that all sterling balances arising out of current trade should be made freely convertible into other currencies, including dollars, after July 15, 1947. Thus countries selling to Britain were able to convert the sterling proceeds from such sales into dollars. The preference for American goods made this a serious drain against the dollar resources of Britain and contributed to the premature exhaustion of the loan.

LONG-TERM INTERNATIONAL CAPITAL MOVEMENTS AND MULTILATERAL TRADE

A successful solution of the balance-of-payments problem of the postwar world does not necessarily require that the imports and exports of individual countries be equalized. On the contrary, international multilateral trade has always been carried on with the aid of long-term capital movements between countries. Capital-hungry areas borrow as a matter of course from countries blessed with an abundance of productive and lending power. In the past the bulk of the peacetime capital transfers have been carried out by private financial agencies. But the restoration of an adequate level of international investment through private channels appears to be unlikely in the face of postwar conditions. Credit risks of loans to foreign firms and governments in many instances are impossibly high for private lenders to assume. These risks grow out of the uncertainties of economic prospects of foreign borrowers in the postwar world and the added threat that balance-of-payments difficulties in the borrowing country may lead to the imposition of exchange controls and the blocking of both principal and interest payments.

The International Bank for Reconstruction and Development. In anticipation of the probabilities that private international investment would prove inadequate for the needs of the postwar world, provision was made under the Bretton Woods Agreements of 1944 for the establishment of the International Bank for Re-

construction and Development. The purposes of the Bank are to promote the international flow of long-term capital, to encourage an expansion of world trade, and to assist in the maintenance of equilibrium in the balance of payments of member countries. Unlike the postwar intergovernmental grants and loans, which are based upon the necessities of current circumstances rather than on the prospects of repayment, the loans of the International Bank are intended to be made on a sound basis with reasonable certainty of repayment. "In each case the Bank must be satisfied that the over-all effect of a loan, combined with the resources and efforts of the borrowing country, will be to improve the economic position of the country sufficiently to give reasonable assurance that the money needed for repayment will be available."¹⁵

In April 1950, 47 countries were members of the Bank and several additional applications for membership were under consideration. To become members of the Bank, countries must belong to the International Monetary Fund and subscribe to a minimum number of shares of the Bank's capital stock. Although the Bank's authorized capital was set at \$10 billion, the actual subscriptions of the members amounted to \$8.2 billion. Of their total subscriptions, member governments actually pay in 2 per cent in gold or United States dollars and 18 per cent in the member's own domestic currency. The paid-in capital, amounting to about \$1.6 billion, constitutes a fund out of which the Bank can make loans. Almost one-half of this loan fund, or \$724 million, originally consisted of United States dollars. This came from the United States contribution of 20 per cent of its \$3,175 million stock subscription and the 2 per cent gold and dollar contributions of other members. The remainder of this loan fund consists of the local currencies of the other members.

The Bank may assist members needing loans of foreign currencies in three ways: (1) Directly out of the loan fund described above, it may lend the currency needed by the borrower; (2) it may issue the Bank's own bonds in the money markets of the country whose currency is desired and lend the proceeds; or (3) it may assist by guaranteeing the borrower's note or promise to pay

¹⁵ International Bank for Reconstruction and Development pamphlet, *What the International Bank Means to You*, 1947. For an account of the Agreements leading to the creation of the Bank, see "Bretton Woods Agreements," *Federal Reserve Bulletin*, September 1944. Also see *Articles of Agreement, International Monetary Fund and International Bank for Reconstruction and Development*, United States Treasury, pp. 52-58.

in order to enable it to borrow through private investment channels of the country whose currency is wanted.

The total loans and guarantees made by the Bank cannot exceed the amount of its unimpaired *subscribed* capital, or about \$8.2 billion. Therefore, buyers of the Bank's bond issues (or issues guaranteed by the Bank) are given the double protection of the borrowing member's obligation, plus the claim against all members for their unpaid stock subscription. In addition, the Bank accumulates a reserve fund out of commissions of 1 per cent per annum charged on all loans and guarantees.

Whenever the Bank proposes to lend or aid in the lending of any member's currency, it must first obtain the member's permission. Furthermore, all loans made or guaranteed by the Bank must be made directly to a member country's government or must be fully guaranteed by that government, its central bank, or some comparable and acceptable agency.

The operations of the Bank have been overshadowed in the post-war period by the magnitude of governmental loans and grants required by the acute troubles of the times. The Bank's position is modest indeed in comparison with such undertakings as the British Loan of 1946 and the European Recovery Program. Nevertheless, it may yet play a significant part in promoting sound international investment of a self-sustaining sort. A modest beginning was made in 1947 when it lent \$250 million to the French government, \$195 million to the Netherlands, \$40 million to Denmark, and \$12 million to Luxembourg for reconstruction purposes. By March 31, 1950, its total dollar loans amounted to \$578.7 million. In the meantime it sold \$278 million of its own bonds to American investors. In addition to loans of dollars, the Bank had also lent 2 million dollars worth of Belgian francs, 4 million dollars worth of Swiss francs, 9.1 million dollars worth of Canadian dollars and 1.1 million dollars worth of pound sterling.

THE SCARCITY OF INTERNATIONAL CURRENCY RESERVES

In the preceding sections we have studied the problems involved in the search for methods by which the "soft-currency" countries might achieve an equilibrium in their balance of payments without jeopardizing economic recovery. Until the balance-of-payments problem is successfully solved, there is little merit in seeking to promote international trade by attempting to

impose general convertibility of currencies. The necessary first step toward a restoration of multilateral trade must be the development of conditions under which the tendency toward chronic adverse balances of important countries is corrected. Only then will a system of interconvertibility, based upon an adequate supply of international currency reserves, have a chance of success.

Regardless of the difficulties that have delayed the solution of the balance-of-payments problem, it is essential that progress toward multilateralism should not be hampered by lack of an adequate mechanism through which developing multilateral trade can be cleared. This goal requires provision for an adequate supply of some form of generally acceptable international currency reserves. Furthermore, it calls for a means of expanding the volume of such reserves available to individual countries to meet adverse payments balances arising from irregular, seasonal, and even cyclical changes. The old gold standard provided such flexibility in ordinary times through gold shipments and "equilibrating" movements of short-term capital. The British pound has provided a limited form of international currency reserves, permitting multilateral trading within the Sterling Area.

Bilateral trade. In the absence of adequate stocks of generally acceptable international currency reserves after the war, the countries of Western Europe and the United Kingdom managed to develop a sizable volume of trade through the use of bilateral trading agreements. Such agreements generally called for periodic settlements of accumulated adverse balances by payment in gold or by credits extended by the country having an export excess. At first, before the exhaustion of gold and established credits, trade developed along normal lines with little tendency to require equality of imports and exports between pairs of countries. Later, as the credits and gold supplies of debtor countries became exhausted, trade took on a more rigid and restrictive pattern. Because debtor countries could no longer settle for their imports, commodity surpluses accumulated in some countries.¹⁶

A number of steps have been taken to evolve some degree of multilateralism out of the bilateral trade of Western Europe. First were the agreements made between the United Kingdom and

¹⁶ Cf. United Nations, Department of Economic Affairs, *A Survey of the Economic Situation and Prospects of Europe*, 1948, Geneva, pp. 99-100.

a number of countries outside the Sterling Area to accept and hold sterling. Sterling, in turn, was made convertible into dollars as of July 15, 1947, under the terms of the Anglo-American Financial Agreement (British Loan). But the effectiveness of these agreements declined when heavy drains compelled Britain to suspend the convertibility of the pound into dollars on August 20 of the same year and with the retreat of Britain into the shelter of a greater use of bilateral balanced agreements.

A second effort to introduce a modest element of multilateralism into European trade was made under an agreement of November 18, 1947. This agreement sought, through the use of the Bank for International Settlements, to provide a method for a general clearing or offsetting of debit and credit balances arising under existing bilateral payments agreements. Such offsets would reduce the necessity of gold payments and would restore credit margins so that additional trade might be financed. Such an arrangement, if effective, would reduce the necessity for the bilateral balancing of accounts. To be of any great help, however, the balance of payments of each member of the system should be in substantial equilibrium with the system as a whole, and straining to achieve such equilibrium by attempting to equalize imports and exports between individual countries must be avoided. Because of difficulties confronting some deficit countries, the plan can have but limited usefulness.

The unworkable nature of earlier plans has caused a search for some method of clearing that could be supported by European Recovery Program aid. In July 1948, the Organization for European Cooperation submitted a plan for United States approval designed to begin operations on October 1, 1948.¹⁷ It proposed (1) a consolidation of outstanding debts among the members of the European governments receiving ERP aid; (2) an allocation of currency by each country for use as credits or grants, the specific contribution to be linked to the amount of American aid received; and (3) the "multilateralization" of existing unused credit margins. This plan, modified from time to time, has been helpful but has been unable to provide a basis for anything like an ade-

¹⁷ *New York Times*, July 30, 1948. For a good account of the problems of expanding multilateral trade in Western Europe, see Raymond F. Mikesell's "Regional Multilateral Payments Arrangements," *Quarterly Journal of Economics*, August 1948.

quate degree of European multilateralism. Consequently, continued efforts are being made (1950) to bring about further liberalization of payments restrictions. It is hoped that a European payments union may ultimately be established through ERP assistance and that intra-European trade may be able to throw off its quantitative restrictions and abolish bilateralism in favor of effective multilateralism.

THE INTERNATIONAL MONETARY FUND

In 1944, the representatives of the United Nations at Bretton Woods were searching for a plan that would ease the strains of the postwar period and facilitate the return to multilateral trade on an expanding basis. That they failed to anticipate the magnitude of the difficulties to be encountered is now abundantly clear. Our gigantic efforts to provide the necessary assistance through the British Loan, relief grants, and the European Recovery Program testify to the degree to which the balance-of-payments difficulties were underestimated. Consequently, as we have seen, the activities of the World Bank, conceived at the Bretton Woods Conference to extend loans for rehabilitation and development, have been dwarfed by direct aids from the United States. There was a similar failure at Bretton Woods to anticipate fully the continuing barriers to establishment of an effective mechanism that would provide multilateral convertibility of currencies in the postwar world. Because of the severe and sustained nature of the balance-of-payments problems, the International Monetary Fund, although established, has not been able to function as intended. Nevertheless, establishment of the Fund on March 1, 1947, was an important milestone on the thorny path of international economic cooperation.

The purpose of the Fund is to permit stabilization of exchange rates on a freely convertible, multilateral basis while avoiding deflation and unemployment as a means of correcting an adverse balance of payments. Deficits in a country's balance of payments may be of two kinds. First, there are those which arise out of seasonal and irregular needs, such as the failure of a principal export crop. Similar, though more persisting, are adverse balances arising from cyclical fluctuations at home and abroad. Assuming that a country wishes to avoid deflation and follow a policy of full employment, it is necessary that it be sufficiently fortified with

disposable international currency reserves to meet the adverse balances as they arise. A gold standard country possessing large gold reserves in excess of minimum requirements will have little trouble in meeting either seasonal or irregular adverse balances. Even gold losses arising from depression can be met successfully unless the depression becomes prolonged and the adverse balance becomes very great. But countries that lack sizable amounts of surplus gold or other forms of international currency reserves must rely upon outside help. The International Monetary Fund can provide such help. In the second place, an adverse balance of payments may arise when a "fundamental disequilibrium" has developed that will not be corrected by a normal reversal of seasonal and even cyclical conditions. In other words, the existing exchange rate "overvalues" the currency and thus promotes a *chronic* adverse balance. Two corrections for this condition are available. The correction necessary if exchange rates are to be held rigidly to the existing level is a fall in prices and internal depression. But such a corrective is looked upon, quite understandably, as undesirable. The second and more attractive corrective is to allow the exchange value of the currency to fall to its equilibrium level. The International Monetary Fund provides for limited adjustments in exchange rates for such purposes.

The composition of the International Monetary Fund. By May 15, 1950, forty-seven countries were members of the International Monetary Fund. Each member is assigned a "quota." This quota is important for a number of reasons. First, it determines the contributions that each member country must make to the common currency pool that comprises the Fund. Second, it determines the amount that any member can draw from the Fund because such withdrawals are limited to a certain fraction of a member's quota. Third, it determines the voting power of the member.

The total quotas of all members are about eight billion dollars. Each member is required to pay in gold 25 per cent of its quota or 10 per cent of its official holdings of gold and United States dollars, whichever is the smaller. The remainder of its quota is paid in its own currency. The Fund's holdings of member currencies are carried on deposit with the central bank or other depositary in the respective member country. Members may substitute non-negotiable, noninterest-bearing demand securities for currency

held by the Fund in excess of current requirements. Other assets of the Fund, including gold, are held in selected depositaries. Initially, one-half of such assets is held in the United States and at least 40 per cent in depositaries chosen by the four member countries having the next highest quotas.

Another condition of membership is the adoption by each member of the Fund of a *par value* for its currency expressed in terms of gold or the United States dollar. Delay in the determination of par values is permitted in the case of countries previously occupied by enemy forces.

The purchase of currencies from the Fund. Membership in the Fund entitles a country to "purchase" from the Fund the currencies of other members by transferring to the fund an equivalent amount of its own currency at the ruling par value. Thus members may increase their supply of foreign currencies needed to meet an adverse balance of payments of a temporary nature arising out of *current* foreign trade transactions. This means that within the limits governing purchases of other currencies, a country is protected from the necessity of paying out minimum gold reserves or of shrinking current imports down to the current export level to meet short-time inequalities in the balance of payments. Thus a buffer supply of international currency reserves is provided to members of the Fund to care for current fluctuations in the balance of payments arising from causes *other than fundamental disequilibrium*.

During any 12-month period, a member country may normally purchase foreign currencies in exchange for its own currency to an amount of not over 25 per cent of its quota. In addition, its total purchases are limited by the rule that, without special permission from the Fund, the Fund's holdings of a given country's currency cannot exceed 200 per cent of its quota. Therefore, if a country has paid 25 per cent of its quota in gold and 75 per cent in its own currency, it can offer its own currency in exchange for foreign currencies to the amount of 25 per cent in any one year and to the total amount of 125 per cent of its quota.

Because the privilege of purchasing foreign currencies from the Fund is meant to answer only the *current* needs of members, pressure is exercised to induce members to buy back as promptly as possible their currencies offered to the Fund in exchange for foreign funds. Two regulations are designed to accomplish this

purpose. First, in addition to a service charge of three-quarters of 1 per cent made at the time of the purchase of a foreign currency, the Fund levies a charge on its holdings of a currency in excess of 100 per cent of the member's quota. Thus, should a member that has paid 75 per cent of its quota in its own currency wish to purchase other currencies from the Fund, no charge save the initial service charge would be levied except on purchases in excess of 25 per cent of the member's quota. The charge, when made, rises with the size and duration of the member's drawings against the Fund, and is normally paid in gold. Second, not only are members *permitted* at any time to repurchase for gold any part of the Fund's holdings of their currencies in excess of their quotas, but also they are *required* to repurchase such excess holdings under certain stated conditions relating to their supplies of gold and foreign exchange reserves.

The choice of par values. Each member of the Fund adopts a par value for its currency in terms of gold or the United States dollar. This initial par is reviewed by the Fund and approved by it. Generally speaking, the par values originally adopted corresponded to the dollar exchange rate previously in use and were accepted by the Fund as an appropriate starting point. Future modifications of initial par exchange rates, under the rules of the Fund, were anticipated as the more permanent postwar pattern of trade became clear.

Two points of view were taken into account by the Fund in approving initial par values: (1) the *immediate* exchange rate requirements for successful expansion of exports and foreign trade during the reconstruction period; and (2) the *ultimate* or long-run exchange rate requirements of a country for maintenance of both a high level of output and an acceptable balance of payments.¹⁸ There are obvious difficulties in the choice of a satisfactory rate of exchange for a country that has had its foreign trade connections disrupted, its domestic production distorted, and its productive capacities reduced by the war. From the point of view of immediate need, a rate of exchange that would expand exports and shrink imports to a level where the balance of payments is equalized would clearly be unsatisfactory. Such a rate, by reducing

¹⁸ Cf. Gutt, Camille, "Exchange Rates and the International Monetary Fund," *Review of Economics and Statistics*, May 1948, pp. 82-84.

imports, would limit rather than expand productive capacity. At the same time, it would invite internal inflation by encouraging the export of scarce goods. Hence, a true equilibrium rate of exchange appropriate for the immediate postwar years was not the proper aim. Instead, the Fund approved of exchange rates that promised to permit an expansion of exports without necessarily bringing imports and exports into balance. Necessary checks on imports were left to other controls. In the sellers' market of the postwar world, such a compromise rate was both feasible and desirable.

The ultimate or long-run aim of the Fund is to adopt par rates of exchange that will enable the countries concerned to restore a tolerable balance of payments after economic reconstruction, currency convertibility, and sound, prosperous economic conditions have been restored in the main trading nations of the world. The Fund quite properly admitted that the choice of such a par exchange rate is quite impossible by mere inspection of the economic conditions of the immediate postwar years. It also rejected reliance upon a calculation of purchasing power parities on the grounds that both concealed or potential price inflation and substantial changes in the trade requirements of nations make such a calculation misleading and of little use.¹⁹ Rather, it adopted the policy of approving original exchange parities so long as they promise not to interfere with expansion of postwar exports. In the long run it expected that modifications of existing parities would be required to avoid the adverse effects of currency overvaluation. The Fund concluded that up to the autumn of 1947, initial parities did not hamper exports. During 1948 and 1949, however, the varying rates of price inflation and deflation threatened to hamper exports to the dollar area countries. The devaluations of September 1949, were made after consultation with the Fund and with its approval, as a means of correcting overvaluations in terms of the dollar.

Changes in exchange rate parities. One of the aims of postwar economic plans is to avoid the necessity of a country's deflating and reducing employment as a means of achieving equilibrium in its

¹⁹ But for the view that purchasing power parity calculations provide an indispensable point of departure for the determination of exchange parities, see Young, J. P., "Exchange Rate Determination," *American Economic Review*, September 1947, pp. 593-591.

balance of payments. In the absence of adequate amounts of international currency reserves, individual countries may now purchase foreign currencies from the Fund to meet temporary adverse balances arising out of current transactions. But should an adverse balance of payments of a *chronic* nature develop, it would indicate that the existing par of exchange is too high or that the currency is "overvalued." In such a case, the par value of the currency must be reduced if domestic deflation and unemployment are to be avoided. Overvaluation of the currency may arise out of domestic inflation, falling prices abroad, or shifts in the international demand away from a country's exports. In any event, the circumstances would warrant a reduction in par value of the currency.

The rules of the Fund provide for a reduction of parities whenever a "fundamental disequilibrium" develops in a country's balance of payments. This has been interpreted to include the appearance of unemployment of a chronic or persistent character arising from pressure on the balance of payments. Changes in par value may be made only on the request of the member country. In order to avoid the danger of competitive exchange depreciation by countries seeking to undervalue their currencies to promote employment at home by "exporting unemployment," a member must first consult the Fund before changing par values. The Fund has no veto power over changes not exceeding 10 per cent away from the initial par values. But the Fund has the right to approve or disapprove of greater changes. Incidentally, whenever the exchange value or parity of a currency is lowered or raised, the gold value of that currency held by the Fund cannot be allowed to change. Therefore appropriate adjustments, up or down as the case may be, are made in the amount of currency in the hands of the Fund.

Capital transfers. The International Monetary Fund in itself does not provide protection against flight of capital or heavy unilateral capital transfers that may press heavily on a country's balance of payments. To be sure, the introduction of stable exchanges in itself tends to eliminate speculative capital transfers, which proved so burdensome in the unstable currency days of the early 1920's and the 1930's. But the right to reduce the exchange value of a currency to correct fundamental disequilibrium may encourage the speculative sale of a currency in anticipation of

devaluation. It would be disastrous to the Fund, however, if its resources were exposed to drains arising from capital transfers and flight. Hence there is a provision that "a member may not make net use of the Fund's resources to meet a large or sustained outflow of capital, and the Fund may request a member to exercise controls to prevent such use of the resources of the Fund."

The reduction of exchange controls. A fundamental aim of the Fund is to introduce freedom of payments and transfers for current international transactions. Therefore members of the Fund agree to impose no restrictions on international payments on current transactions without the approval of the Fund. Moreover, they agree to refrain from any discriminatory currency arrangements or multiple currency practices except as authorized by the rules or approved by the Fund. In spite of the intention that such practices be reduced, the Fund has found it necessary to approve or acquiesce to their continuance in a number of cases. The Fund recognizes that the reconstruction period has presented difficulties in the balance of payments that justify temporary retention of exchange controls which are undesirable in the long run.

Scarce currencies. A possibility exists, even after economic reconstruction has been accomplished, that the Fund's supply of a particular country's currency may become short because of current strength of the international demand for exports that country can supply. If the Fund's ability to meet demands upon it is to remain unimpaired, a remedy for the current scarcity of the given currency must be provided. The Fund, therefore, may notify its members of an impending scarcity, make a report on the causes, and make recommendations for appropriate remedies.

To correct the immediate shortage, the Fund may *request* the member whose currency is scarce to lend additional currency to the Fund or permit the Fund to borrow such currency within or without the member's territory. The Fund may also require the member to sell its currency to the Fund in exchange for gold. Should the scarcity of a particular currency become serious, however, the Fund may resort to rationing the limited supply among members applying for its purchase. In such a contingency members may resort to exchange control over dealings in currencies declared to be "scarce." Unfortunately although perhaps inevitably, there seems to be no way to require a country to adopt appropriate

measures that might tend to overcome a threatened or actual shortage of its currency. For instance, if in spite of the devaluations of 1949, the postwar dollar shortage should persist after the economic rehabilitation of Europe becomes a substantial reality, corrective action by the United States should be taken to reduce its "favorable" balance of payments. This might involve, in ascending scale of preference, (1) internal price inflation; (2) a rise in the gold value of the dollar; (3) a reduction in import barriers; and (4) a steady flow of capital export for productive purposes.

The sale of currencies by the Fund. The sale of currencies by the Fund to meet member countries' temporary needs have been of modest proportions. The postwar requirements, growing out of economic dislocations of the times, were cared for by inter-governmental grants and loans, which we have discussed earlier. Nevertheless, some drawings have been made against the Fund. Naturally enough, the demand for U.S. dollars greatly overshadows the demands for other currencies. By February 28, 1950, the Fund had sold altogether \$759.8 million U. S. dollars, 1.5 million pounds, and 500 million Belgian francs.

Questions for Study

1. Can you name the three main patterns found in monetary systems before World War II?
2. Examine Table 32. Can you explain the relatively mild changes in wholesale prices that occurred during the war period? Why was there the sharp upward movement after the war ended?
3. After World War I, with one exception, stabilization of currencies was achieved without any attempts to reduce the quantity of currency. Contrast this with the steps taken in Belgium and in Western Germany after World War II.
4. When currency reform was accompanied by blocking currency and deposits, what general goal was being sought?
5. Why is a restoration of multilateral trade so urgently needed? How is the supply of international currency reserves related to the question of multilateralism?
6. Can you show why adverse trade balances tend to result in the use of bilateral trade agreements?
7. Examine Table 33. Why was Britain's postwar balance-of-payments problem so acute?

8. Why was the British dollar shortage made worse by Britain's obligations to other sterling area countries?
9. In the text, five different possible methods of meeting the adverse balance of payments problem were suggested. What are the merits and weaknesses of each?
10. Why did England refuse to devalue the pound for such a long time? Was this delay justified in the early postwar years?
11. On what grounds can bilateral trading and exchange control be justified?
12. Why are the postwar loans and grants of the United States to England and Western Europe of advantage to us?
13. What is the primary purpose of the International Bank for Reconstruction and Development? How does one account for the modest size of its operations to date?
14. What are *international currency reserves*? Why does their scarcity tend to drive a country into bilateral trading?
15. What privileges go with membership in the International Monetary Fund? What is the quota assigned to members?
16. What occasions permit a member country to: (a) Apply for the "purchase" of a foreign currency? (b) Apply for the privilege of changing its exchange parity?

Part IX

Monetary and Credit Policy

Monetary Policy: Independent Currencies Versus an International Standard

IN EARLIER CHAPTERS WE EXAMINED THE NATURE AND THE OPERATION of various types of monetary systems. These systems varied from the international gold standard with rigid exchange rates to independent national currencies on an inconvertible paper basis. We saw how attempts have been made to achieve the benefits inherent in both international currency standards and independent national currencies by the introduction of exchange controls in some countries and by provision for adjustable gold parities and borrowing facilities through the International Monetary Fund.

We are now prepared to examine the problem of what is an appropriate and desirable monetary policy in the modern world. The search for a proper monetary policy implies, of course, that nations still have some element of choice in their monetary affairs. Furthermore, it implies that a consideration of various aspects of monetary policy and the proper choice of policy are vital questions. The range of questions of monetary policy we shall examine in this and in the three following chapters includes: (1) choice of a national, an international, or some intermediate form of monetary standard; (2) instruments of monetary policy available and most suitable in the modern world; and (3) standards by which domestic monetary management may best be guided in the search for economic stability and full employment. In the present chapter we shall consider the first of these problems—the choice of an appropriate monetary standard.

THE CASE FOR AN INTERNATIONAL MONETARY STANDARD

The nineteenth century saw the flowering of modern *laissez faire* capitalism. The foundations of this development were to be found in a tremendous growth of international trade accompanied by rapid expansion of international lending. The whole structure was tied together and articulated by a common international standard of value, namely, gold. The gold standard, of course, required that price levels throughout the world move together in harmony. Failure of prices in one country to keep step with prices elsewhere brought a disturbance to the balance of payments, which in turn caused appropriate corrections in the price level. The general world movement of prices, to which the price levels of individual countries had to conform, was determined in the long run by the monetary supply of gold in relation to the monetary requirements. The short-run or cyclical price movements were governed in part by cyclical developments in different parts of the world economic structure. Particularly, however, the short-run price movements before 1914 were to a considerable degree under the influence of the London money market and the Bank of England. This condition arose from the predominant place of the British money market in financing international trade, its importance as an international loan market, and the central position of the English merchant in world trade. The monetary policies of the Bank of England, therefore, tended to be imposed upon the remainder of the world. Some writers have chosen to describe the situation as one in which the Bank of England managed the gold standard. Its management, however, was primarily designed to preserve an adequate supply of gold reserves rather than to achieve any such lofty aim as "stability," which characterizes modern plans for monetary management. In any event, the prices of the various countries were compelled to follow the general world trend.

An international monetary system. An international standard requires a commonly recognized and acceptable money. Historically, the only money to achieve wide acceptability has been one consisting of the precious metals, with gold preferred in modern times. But this does not necessarily mean that an international monetary unit must be gold or silver. If confidence in international relations exists, it is quite possible that an incon-

vertible paper unit of recognized purchasing power within some powerful trading country might become an international unit for making settlements between countries. We have seen this fact well illustrated in the use of the paper pound by the Sterling Bloc.

Difficulties arising under an international gold standard. The gold standard, though working well as an international standard, at least part of the time, was subject to two serious defects. First, it was exposed to long, sweeping changes in world price levels arising from a failure of gold to expand at a rate corresponding to monetary requirements. Second, the gold standard not only failed to give protection against cyclical price fluctuations but in some instances it tended to accentuate them. This was especially true in periods of acute deflation, when a general loss of credit confidence led to money panics and forced credit liquidation. The results of such a liquidating movement were seen in the collapse of the gold standard after 1929. Doubt as to the desirability of the international gold standard began to be expressed in some quarters before the restoration of gold in the early and middle 1920's. The subsequent collapse of the gold standard strengthened this view, until now many economists believe that only by adopting an independent national currency can modern monetary problems be met.

THE CASE FOR MONETARY NATIONALISM

The case for monetary nationalism (or independent paper currencies) rests primarily upon the belief that unemployment and cyclical fluctuations of the modern business world can be satisfactorily met only by a controlled and independent currency system. The gold standard, as is well known, requires that prices within the individual countries adjust themselves to harmonize with world prices. This result requires reasonable flexibility of the whole internal price structure if the strains and disturbances associated with wide dispersion of individual price movements are to be avoided. The more readily the internal price structure adjusts itself to necessary changes, the greater the success of an international monetary standard such as gold. But there is reason to believe that prices may not be sufficiently flexible in the modern economic world to make the international gold standard tolerable. To support this view, one may refer to the experiences of the decade that began in 1929, when in fact the gold standard

suffered a complete collapse. In addition, there is evidence tending to show that price rigidity is inevitably increasing.

The question of increased rigidity of prices. Several reasons may be cited for believing that the price structure of the modern world is becoming more rigid. First, there is undeniably a marked trend toward increased governmental interference in economic affairs. This trend takes the form both of price-fixing and of an expansion of direct governmental action in economic fields. At best, prices controlled by the government are but tardily adjusted to general price movements. When price control is used to maintain prices of agricultural products, government agencies are notoriously biased against price reductions because of political considerations. Moreover, the expansion of the scope of government services furnished to the public tends to saddle upon the business community a rigid tax burden that cannot be adjusted to commodity price changes.

Second, the growing power of unions, with their emphasis upon the maintenance of existing wage rates during depressions, adds a powerful influence to other forces leading to rigidity of costs. When such rates are supported by unemployment benefits paid by the government, the tendency toward rigidity is further strengthened.

Third, in modern economic society, large-scale business enterprise is the inevitable result of modern technology. The growth of large-scale business units reduces the potential number of competitors operating within any given market, and encourages the formation of price-fixing agreements and the adoption of other methods of avoiding competition. In industries dominated by a few large-scale firms, a decline in demand is likely to be met with a fall of output rather than by a lowering of prices. "Administered" prices, in which the seller fixes his price and sells what he can at that price, are common both in fields dominated by large firms and among all products bearing a brand or other distinguishing mark. Although "administered" prices do fluctuate, they tend to move more slowly and through a narrower range than do prices fixed in markets where numerous traders deal in standardized, nondifferentiated goods.¹

¹ For an examination of this question, see Neal, Alfred C., *Industrial Concentration and Price Inflexibility*, American Council on Public Affairs, Washington, D. C., 1942. Also see Means, Gardner C., "Price Inflexibility and the Requirements for Stabilizing Monetary Policy," *American Statistical Association Journal*, June 1935.

Evidence of the growth of price rigidity is seen by some in the behavior of prices during the period 1928-1938. Evident stickiness is taken as an indication that the growth of large-scale production has been responsible for reduced flexibility of prices. This conclusion has been challenged, however. An examination of the behavior of prices over the past 100 years shows that during acute depressions violent changes have occurred in prices of "sensitive" commodities, whereas the prices of "insensitive" commodities have shown relatively little change. This result supports the view that the appearance of insensitive prices showing marked cyclical stability is by no means a new phenomenon, and that the increase in large-scale production is therefore not to be blamed for the existence of insensitive or rigid prices since 1920. During the period 1926-1933, numerous examples may be cited of commodities that were produced by comparatively large and few concerns and that fell in price more than did the average of all commodities. These commodities include rubber tires, rayon, petroleum products, meats, and copper. On the other hand, the prices of apples, alfalfa seed, bakers' bread, vinegar, canned vegetables, boots and shoes, overcoats, coal, cement, brick and tile, paint, house furnishings, tableware, and paper and paper boxes fell relatively little, although these products are produced by comparatively small-scale and numerous producers. The contrast between sensitive and insensitive prices in four depressions is shown ² in Charts 32-35. The prices during the periods represented in the charts were divided into four equal groups on the basis of their decline from the beginning of the period to the low date. Commodities whose prices were thus classified included all of those appearing in the most comprehensive wholesale price indexes of each period. The sensitive and the insensitive prices shown in the charts are the average prices of the groups showing the greatest and the least decline, respectively. It would be unreasonable to hold that inflexible debts, prices, wages, and tax burdens did not constitute a serious impediment to the restoration and maintenance of economic equilibrium under the gold standard. Nevertheless, in the light of Mr. Tucker's evidence, one may very properly doubt the complete validity of the often heard and

² See Rufus S. Tucker's "The Essential Historical Facts About 'Sensitive' and 'Administered' Prices," *The Annalist*, February 4, 1938. Also see Neal, *op. cit.*, Chapter VIII, for the conclusion that concentration was not responsible for price inflexibility in the 1929-1937 period.

popular assumption that new and growing inflexibility in prices, caused by the extension of large-scale production after World War I, made the postwar gold standard unworkable. The break-

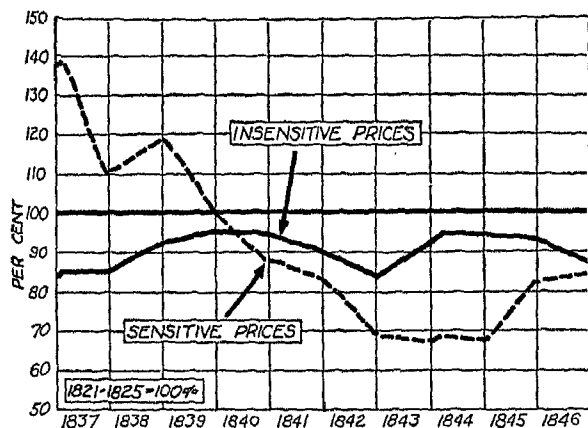


CHART 32. CONTRAST OF SENSITIVE AND INSENSITIVE PRICES, 1837-1846. Reproduced from *The Annalist*, Feb. 4, 1938, by permission of the New York Times.

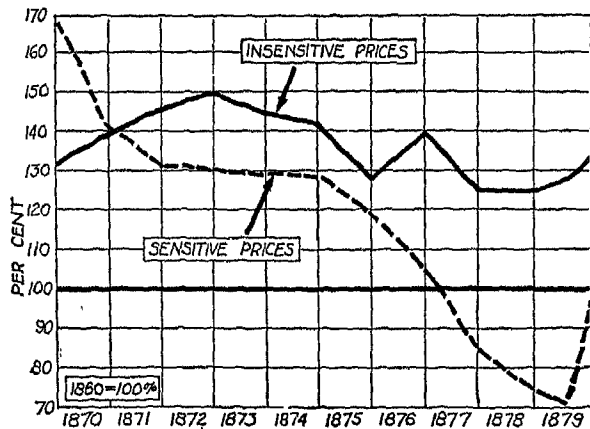


CHART 33. CONTRAST OF SENSITIVE AND INSENSITIVE PRICES, 1870-1879. Reproduced from *The Annalist*, Feb. 4, 1938, by permission of the New York Times.

down of the gold standard after 1929 may more properly be laid to the vulnerability of many countries to the unusually severe deflationary forces in operation than to any sudden increase in price inflexibility.

Economic stabilization and independent currencies. Present-day discussion of monetary policy centers around the problem of how to achieve full employment and economic stability. The

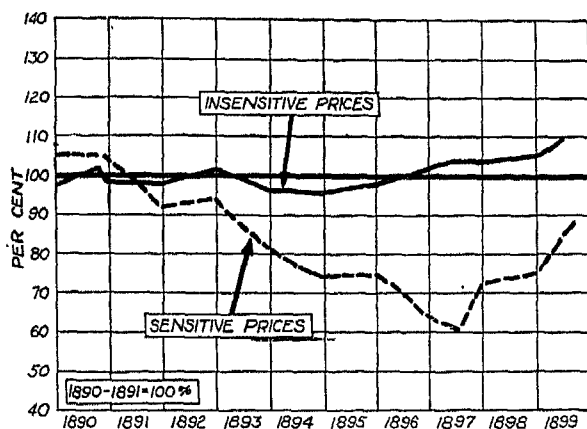


CHART 34. CONTRAST OF SENSITIVE AND INSENSITIVE PRICES, 1890-1899. Reproduced from *The Annalist*, Feb. 4, 1938, by permission of the New York Times.

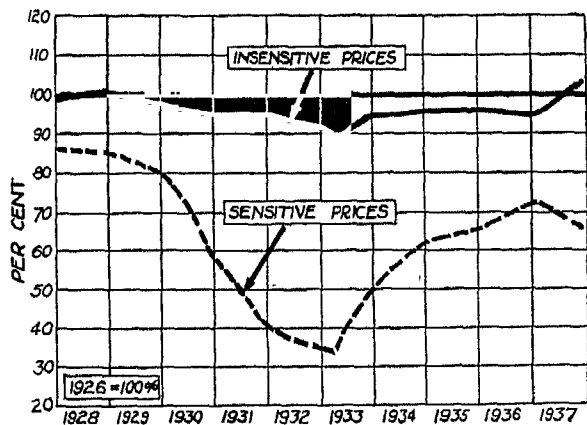


CHART 35. CONTRAST OF SENSITIVE AND INSENSITIVE PRICES, 1928-1937. Reproduced from *The Annalist*, Feb. 4, 1938, by permission of the New York Times.

proper approach to this problem is generally held to be along the road toward stabilization of prices, control of the discount rate and government fiscal policy. These goals are designed to smooth out fluctuations in investment and to bring about and maintain an

equality between saving and investment at full employment. Adherence to an international gold standard, with its stable exchange rates, requires that internal prices and discount rates be adjusted to conform to the requirements of outside price movements and trade balances. Disequilibrium in the balance of payments under the gold standard is corrected in the last analysis by adjustments in the price level. In the view of some economists, this introduces an almost insuperable barrier to attempts at domestic stabilization. On the other hand, these economists believe that flexible exchange rates associated with independent currencies furnish a painless and swift method of restoring equilibrium in the balance of payments. Many advocates of monetary management, therefore, reject entirely all thoughts of an international monetary standard such as gold.³ They shed few tears over the abandonment of the gold standard because they believe that a growing rigidity of prices and other developments have made its maintenance impracticable anyway, regardless of attempts at management.

An independent currency system, under which the internal price level is stabilized while world prices fluctuate, necessarily requires flexible and fluctuating exchange rates unless it is combined with exchange control and bilateralism. Those who hold that the only hope of achieving internal stability lies in the adoption of an independent currency believe that the choice lies between unstable internal prices with stable exchange rates and stable internal prices with unstable exchange rates.⁴ The choice of a free independent currency instead of an international standard is, therefore, not an unmixed blessing, for it offers an opportunity to exercise greater control over domestic prices and interest rates at the price of exchange stability, one of the most significant benefits of the gold standard.

³ Cf. Bernstein, *Money and the Economic System*, Chapel Hill, N. C., University of North Carolina Press, 1935, pp. 463-464, and Whittlesey, Charles R., *International Monetary Issues*, New York, McGraw-Hill Book Co., 1937, for two American writers who emphatically reject the international gold standard.

⁴ Of course, if the rest of the world were also to adopt a successful policy of stable prices, stable exchange rates might be possible in the face of domestic stabilization efforts. Cf. Keynes, *Monetary Reform*, New York, Harcourt, Brace & Co., 1924, pp. 167-168. For an excellent discussion of the connection between international monetary and price relationships and a policy of stabilization, see John H. Williams' "International Monetary Organization and Policy" in *Lessons of Monetary Experience*, New York, Farrar & Rinehart, 1937, Arthur D. Gayer, ed.

SOME OBJECTIONS TO INDEPENDENT CURRENCIES

The inflationary bias of independent currencies. Stressing cost and wage rigidities as the essential reason for the need for an independent currency, the advocates of such a currency are primarily concerned with the desirability of avoiding the depressing effects of price deflation. Because of this, the pursuit of a national policy of stabilization may lead to the development of an inflationary movement in domestic prices.

Let us suppose, for example, that a country using an independent currency system develops an adverse balance of payments because of a decline in the foreign demand for some of its exports. Under an international standard, corrections would occur in the form of a decline in internal prices, with the greatest decline occurring in those commodities whose foreign demand has diminished. But with an independent paper standard, the restoration of equilibrium will occur through a rise in the foreign exchange rates. The rise in foreign exchange rates will (1) prevent a fall in the prices of the export commodities whose demand has declined; (2) increase the cost of imports and therefore reduce their volume; and (3) stimulate exports whose foreign demand has not diminished. All of these results give encouragement to domestic industry. With lagging costs, those industries whose prices actually advance will receive unusually large profits, and a general expansion will tend to develop. Unless the monetary authority, therefore, takes stern restrictive measures, a domestic boom, with its well-known self-reversing characteristics, will result. But the rise in foreign exchange rates, with its inflationary effect on the domestic economy, was permitted in order to prevent a fall in prices in that branch of the export trade whose foreign demand had fallen away. Any credit restraints designed to hold in check the threatened rise in the general domestic price level will necessarily cause a fall in the price of exports for whose benefit a flexible exchange rate is designed. Since it is the announced purpose of the monetary nationalism to avoid reducing prices and wages because of a change in the international situation, it is difficult to believe that appropriate deflationary measures would be adopted by the monetary authority.⁵

⁵ Cf. Hayek, *Monetary Nationalism and International Stability*, pp. 35-53.

The above source of economic instability, which seems inherent in attempts to escape deflation by the use of independent currencies with flexible exchange rates, must be set against the expected gains. In case the fall in demand applies to all exports, owing to world business depression, this source of disturbance becomes unimportant. In such a case, the inflationary aspects would be overshadowed by general deflationary conditions. Since it is with this last contingency that monetary management is vitally concerned, the advantages of monetary management should outweigh the disadvantage discussed above.

Independent currencies and long-term lending. Perhaps the gravest criticism of independent currencies concerns their effect upon international capital movements. Both long-term and short-term capital movements will be influenced by a shift from the gold standard to independent currencies. The reason for this lies in the inevitability that pure paper currencies will be accompanied by fluctuating exchange rates. But when the hazards of uncertain exchange rates are added to the ordinary hazards of foreign long-term lending, it may well be that such lending will be sharply curtailed. If so, this is a serious basis for criticism of independent standards. Modern capitalism has reached its high level of effectiveness through international division of labor supported by generous movements of capital from the older areas into the undeveloped, frontier areas. The stagnation in world economy after 1929 to no small extent can be blamed upon a drying up of international lending. Abandonment of an international standard, such as gold, may be expected to furnish an added barrier to such lending.

Advocates of independent currencies, however, refuse to be impressed with the danger to foreign lending. First, they admit that the gold standard, with its stable exchange rates, may have performed yeoman service during the nineteenth century, while capitalism was growing to maturity, but point out that today that growth is tapering off. As a result, international capital movements are no longer so essential. In fact, there is some evidence that modern capital movements are of slight advantage. Much of the lending done during the 1920's went for unproductive uses, with subsequent embarrassment to borrower and lender alike. Moreover, there seems to be a spreading disbelief in the ability of a lending country to adjust its balance of payments readily in the

face of a sizable expansion of foreign loans. This fear of disturbance to the lending country's balance of payments is closely associated with the idea that prices and costs are growing in rigidity. From this line of reasoning it is concluded that *laissez faire* in international lending is undesirable. Furthermore, it is noted that the workers in a country lending abroad are being deprived of higher incomes at home for the benefit of workers abroad. In other words, while capital may be more productively employed abroad, it by no means follows that the welfare of the population at home is actually bettered.⁶

Advocates of independent currencies, however, will not always admit the validity of the common assumption that long-term lending must languish in the absence of the international gold standard. They see as causes of the decline in foreign investment of the 1930's such things as the world-wide depression, trade barriers, former losses, and, to a lesser extent, fear of fluctuating currencies. Foreign loans are customarily expressed in terms of the lender's currency. Since this is so, it matters little to the purchaser of foreign securities of this type whether or not the lending or the borrowing country is using an independent currency. So long as he is assured of a fixed amount of his own currency in payment, the lender can ask for nothing better either at home or abroad. The borrowers, however, are in such a case exposed to the danger of fluctuating exchange rates. Yet even here there need be no serious danger. If the lending country has an independent currency, there is small likelihood that it will suffer any marked deflation of prices. Therefore, there seems to be little risk that the exchange rate on the lending country will rise sufficiently to increase the debtor's burden to any serious degree. On the other hand, if a fall in the exchange value of the borrowing country's currency in terms of the lender's currency should occur, it would presumably be due to a rise in prices within the debtor country. But such rising prices would provide windfall profits of sufficient magnitude to offset the adverse exchange rates. Finally, foreign investment need not take the form of fixed-income-bearing securities. Investment in foreign stocks and property is by no means uncommon. On such investments there seems to be no

⁶ Cf. Keynes, *Treatise on Money*, Vol. II, pp. 306-315. Also see Whittlesey, *International Monetary Issues*, pp. 150-152.

reason to expect prohibitive hazards arising out of fluctuation in exchange rates.⁷

Independent currencies and short-term capital movements. The collapse of the gold standard after 1929 was in no small measure immediately due to the flight of short-term balances from countries whose monetary systems came under suspicion. Attempts to withstand this flight led to highly deflationary pressure and caused the serious forced credit liquidation. These short-term balances are a natural and indispensable part of the international banking mechanism. Their volume, however, increased during 1929 and 1930, owing to the unwillingness of lenders to tie themselves to long-term commitments. After the panic had seized the international financial markets during the years 1931-1932, the volume of short-term balances was still further augmented by the action of frightened individuals who sought refuge from the hazards of holding their own currency in converting it into liquid holdings abroad.

Advocates of the use of independent as contrasted to an international currency profess to see no way to avoid a repetition of the experiences of 1929-1933 save by a complete abandonment of the gold standard. Only thus, it is said, can fear be rendered impotent to disturb the stability of a country's economic system. The adoption of an independent currency and flexible exchanges would reduce the accumulations of short-term foreign exchange balances by removing the fixed gold points that make possible the accumulation of bankers' arbitraging balances. With independent currencies, the bulk of the short-term balances would be those of exchange speculators. The very hazard of holding foreign exchange in the face of flexible exchange rates would tend to discourage the practice.

Advocates of independent currencies are inclined to dismiss lightly the fact that such currencies may be and have in fact been the object of speculative movements of great magnitude arising from the flight of capital. They hold that experience with gold during the last few years shows that it, too, is exposed to the pressure of capital flight in times of depression. But this is hardly a fair picture of the relative susceptibility to capital flight of the

⁷ For a competent development of this whole argument, see Whittlesey, *op. cit.*, pp. 159-170.

two types of currency. Inconvertible paper currency, unless carefully managed and protected, is always exposed to the danger of capital flight. Gold currencies, in normal times, are not so exposed to speculative pressure. It is only in time of acute depression that they come under suspicion.

In conclusion, the flight of capital was responsible for much trouble during the period beginning with 1931. It is unlikely, however, that the abandonment of gold offers any remedy for this danger. Speculative pressure, which may reach very large and disturbing proportions, is a constant threat to free exchange rates based upon independent currencies. Such exchanges are exposed to every breath of suspicion that arises, and are, therefore, subject to violent and unpredictable fluctuations. Satisfactory short-run stability of exchanges cannot be expected without resort to some form of exchange control mechanism, such as the stabilization funds with whose operations we are already familiar. But the resort to exchange control to check short-run exchange fluctuations introduces complications in the problem of obtaining the maximum benefits from the use of an independent paper currency to combat a general depression. Efforts to induce internal prices to move contrary to the movement of prices abroad must be coupled with a conscious depreciation of the exchange value of the domestic currency if the best results are to be obtained. But exchange depreciation as an instrument of national policy has serious objections. Any actual undervaluation of the currency, whether intentional or unintentional, will still further disturb the economies of foreign countries. Moreover, any depreciation of a controlled exchange rate, whether it results in undervaluation of the currency or not, is almost certain to provoke unfavorable reaction abroad with reprisals in the form of higher tariffs, quotas, and competitive exchange devaluation.

Independent currencies and seasonal factors. International trade is not something that moves smoothly and regularly, with a constant balance between imports and exports. Instead, it is irregular in nature, conforming to seasonal forces that influence both demand and supply. Consequently, there is no daily, weekly, or even monthly balance between import and export items. Under the gold standard, it is sufficient for the trade and long-term capital items entering the balance of payments to be equalized over a fairly long period of time. This is true because

of (1) the willingness of bankers to allow credits to accumulate within a country having an adverse balance, in the expectation that later in the season the situation will be reversed; and (2) the possibility of shifting gold when necessary to meet adverse balances. But, on the other hand, an independent currency with free exchanges discourages bankers' balances. As a result, either (1) exchanges must fluctuate widely enough to create an equality between import and export items over short periods of time; (2) some form of exchange control must be initiated to force a short-run equality of import-export items; or (3) a stabilization fund must be set up to take the place of the banker who operates under the gold standard to provide short-run stability of exchange. Clearly, the use of exchange stabilization funds offers the most practical way to meet the problem raised by independent currencies.

Independent currencies and the influence of foreign cyclical price movements. One important advantage claimed for the use of independent currencies is that it permits the freeing of the domestic economy from cyclical price movements originating abroad. Is there good reason to believe that this assumption is true? In answering this question, one must take into account the fact that an individual nation is by no means a closed economy dealing only with itself. Instead, all nations must deal with others, and are parts of the larger world economy. Regardless of whether or not a country adopts an independent currency with flexible exchanges, a depression abroad will adversely affect the export market. Conversely, boom conditions abroad stimulate exports and domestic business. Monetary management, with or without an independent currency system, can prevent a foreign-generated boom from spreading to the domestic economy. It is unlikely, however, that it can avoid the disturbing consequences arising from a severe depression abroad.

The problem involved in attempts to insulate one country from the effects of economic fluctuations abroad is well stated by Professor Hayek. "The truth of the whole matter is that for a country which is sharing in the advantages of the international division of labor it is not possible to escape from the effects of disturbances in these international trade relations by means short of severing all the trade ties which connect it with the rest of the world. It is of course true that the less the point of contact

with the rest of the world, the less will be the extent to which disturbances originating outside the country will affect its internal conditions. But it is an illusion that it would be possible, while remaining a member of the international commercial community, to prevent disturbances from the outside world from reaching the country, by following a national monetary policy such as would be indicated if the country were a closed community. It is for this reason that the ideology of Monetary Nationalism has proved, and if it remains influential will prove to an even greater extent in the future, to be one of the main forces destroying what remnants of an international economic system we still have.”⁸

DOMESTIC STABILIZATION UNDER AN INTERNATIONAL STANDARD

The advocates of monetary nationalism believe that an independent currency is a prerequisite to successful monetary management. This opinion is based on the belief that international monetary stabilization is impossible, and that independent action by one country alone requires the freedom that can be provided only by an independent currency. Before accepting this claim at full face value, one must inquire more fully into the possibilities of (1) domestic control while operating within an international monetary system; and (2) international co-operation.

Secular price trends and domestic stabilization. Any attempt under the gold standard, or other international currency system, to regulate the price level of a single country so that it will run counter to the secular trend of world prices must sooner or later fail. If world prices are rising, stable domestic prices would eventually tend to impose an intolerable supply of gold upon the domestic banking system. On the other hand, if world prices are falling, stable domestic prices must sooner or later cause such a loss of gold, or other international currency reserves, by the domestic banking system as to require the abandonment of the standard. But this is not of such vital importance as might appear at first thought, for the primary problem of stabilization has to do with relatively short-run cyclical price movements.

Domestic cyclical stabilization and an international monetary standard, such as gold. Contrary to the common assumption of

⁸ *Monetary Nationalism and International Stability*, Longmans, Green and Company, Inc., New York, 1939, pp. 70-71. Quoted by permission of the publishers.

those advocating an independent currency system, a considerable measure of control over cyclical fluctuations remains in a domestic monetary authority in spite of an adherence to an international monetary system. First, booms that originate either within or without a country can be as effectively counteracted under the gold standard as on inconvertible paper. Similarly, recessions originating at home can be met with the full battery of monetary weapons regardless of whether gold or paper standards are in use. But, one may ask, what becomes of stabilizing efforts when depressions develop in the outside world? At such a time, a decline in domestic prices and business activity will be inevitable under the gold standard. The degree to which the domestic economy will suffer depends, of course, upon the relative importance of foreign trade. But even under the gold standard, monetary authorities are not entirely helpless in the face of world-wide depression. A lowering of interest rates through open-market operations of the central bank may be expected to have a stimulating effect on investment. If supplemented by public works expenditures, the domestic economy could be stimulated regardless of the adherence to gold.⁹ Inconvertible paper would, of course, offer two advantages over gold in this connection. First, it offers the rather questionable opportunity to stimulate exports by resort to exchange depreciation. Second, it would avoid the deflationary consequences of a loss of gold arising from an excess of imports due to a revival of business and a rise in domestic prices. But gold losses due to business revival need not be serious, for a rising security market and improved profit prospects will attract rather than repel foreign investments. Even though some gold losses do occur, they need not prove detrimental to recovery so long as they do not exceed the power of the central bank to meet them out of excess reserves. For this reason, a proper distribution of the world's gold reserves is a desirable thing if cyclical stabilization is to be sought. One can hardly concur with the smug and oft-repeated statement of advocates of independent currencies that cyclical stabilization by monetary means is entirely impossible under an international standard. Nevertheless, the advantage in this regard clearly rests with inconvertible paper. This fact is especially well indicated

⁹ Cf. Keynes, *Treatise on Money*, New York, Harcourt, Brace & Co., 1930, Vol. II, pp. 375-376, for a recognition of this point.

by the experience of the 1931-1936 period, when the abandonment of gold contributed heavily to the success of attempts to promote recovery.

MONETARY MANAGEMENT THROUGH INTERNATIONAL CO-OPERATION

Some difficulties of international co-operation. The case for independent currencies rests largely upon the proposition that international co-operation is unable to produce a satisfactory international currency. Some reasons for lack of faith in such co-operation are:

1. Nationalism presents a powerful barrier to anything like effective co-operation among nations on matters of monetary policy. One need but recall the criticism in some quarters of attempts by the Federal Reserve System to co-operate on monetary policy with foreign central banks during the restoration of gold in the 1920's to realize the practical difficulties that exist. Jealousy, fear that the interests of foreign countries do not coincide with one's own, and popular distrust of "foreign theories" all complicate the problem of co-operation.

2. Even if an international monetary agreement could be reached, the gold standard itself is not entirely amenable to management. Gold output rises and falls without regard to monetary requirements. Hoarding and industrial demands for gold cannot be controlled. There is the potential menace of capital flight from any country whose currency comes under suspicion.

3. Genuine differences in the economic situation in the several countries may require different monetary policies in order to achieve full employment and stability in each. An example of this is the problem raised in respect to countries that enjoy different rates of economic progress. A monetary policy suited to a country in which economic efficiency is advancing rapidly would be objectionable in a country in which improvements are appearing more slowly.

Even though all of these objections are serious ones, they do not rule out entirely the possibility of international monetary co-operation. Nor should the fact that current circumstances make the prospects of such co-operation at the moment exceedingly dim prevent serious consideration of the problem. If any genuine improvement in economic affairs is to be accomplished

through rational methods, long-run aims cannot be dismissed merely because they are momentarily impracticable. Little of genuine value is likely to come out of temporization on the basis of short-term situations alone.

Possible methods for international co-operation. Once serious attempts at international co-operation become possible, several methods of action present themselves.

1. Discount and open-market policies of the important central banks can be utilized to regulate credit conditions within their respective countries. If price stabilization is chosen as the goal, the combined efforts of the central banks should be able to check unhealthy expansions. Depression, in turn, may be offset by easy money policies; and, if international co-operation is seriously followed, government expenditure, properly financed and timed, should assist in promoting revival.

2. In support of the central banks' instruments of credit control, international agreement may well be used to change the gold content of the several currencies whenever the gold output threatens to become too small or too large and so to interfere with the credit policies of the central banks. If the gold content of all currencies is shifted proportionately, there will be no interference with the international character of the world's monetary system. The rules governing the International Monetary Fund provide for such a change in the gold parities of all currencies at the same time and by the same amount when such action seems desirable.

3. Measures must be taken to protect the monetary system of each country from unnecessary and excessive drains of gold and other international currency reserves that might impose a drastic and undesirable liquidation of prices and credit and cause unemployment. Several approaches may be made to this problem:

(a) One proposal has been to check gold flows by widening the spread between central banks' buying and selling prices for gold. This policy would introduce greater "give" to exchange rates and thus would allow more room for adjusting to short-run disequilibrium in the balance of payments without gold movements.¹⁰ Such a policy is subject to the criticism that it might encourage the accumulation of international short-term balances of the sort that proved so disastrous in the early 1930's.¹¹

¹⁰ Cf. Keynes, *Treatise on Money*, Vol. II., pp. 319-331.

¹¹ Cf. Whittlesey, *International Monetary Issues*, pp. 115-117.

(b) A second and more significant approach to the problem of protecting international currency reserves of individual countries is the provision of means for expanding such reserves through borrowing at some international reserve bank. Such an arrangement is provided in the International Monetary Fund, which was studied in the preceding chapter. If and when economic stability is re-established and basic equilibrium is restored, such borrowing power will go far to care for temporary and emergency disequilibria in countries' payments balances. It will permit central banks, whose gold and other international currency reserves are reduced to a point where multiple credit liquidation is threatened, to borrow to meet their adverse balances. Moreover, it permits a central bank to institute mild rather than violent internal credit restraint, should conditions in its country's balance of payments warrant, to aid in correcting any *fundamental* as contrasted to *temporary* disequilibrium.

(c) Finally, a workable system of international cooperation appears to require an added protection for the international currency reserves of a country that desires to promote internal stability and full employment. If complete international monetary co-operation were feasible, under which all countries would adopt a uniform policy, this need would be less acute. But under actually existing conditions, such a unified international policy is unattainable. Consequently, each country must be left largely to its own devices so far as monetary policy is concerned. In other words, the enormous significance attached to economic security and full employment in the modern world, plus the impossibility of complete and satisfactory international co-operation, makes some degree of monetary nationalism inevitable. But independent currency policy requires some flexibility of exchange rates if unendurable drains of international currency reserves are to be avoided. The International Monetary Fund provides for that flexibility. Whenever, in pursuit of independent monetary policy, a country finds its balance of payments in "fundamental disequilibrium," provision is made for changes in the gold parity exchange rate through authorized procedures. Coupled with this is the additional protection afforded by the authorization of controls over capital movements, which if left free might quickly drain away a country's reserves.

Conclusion. An examination of the probable limitations of an independent currency indicates that the claims of its more enthusiastic advocates are unwarrantedly sweeping. It is clear, however, that the abandonment of gold removes one important cause of deflationary pressure of the kind that arose during the acute depression period of 1929-1936. Nevertheless, it appears

to be something of an exaggeration to claim that flexible exchanges offer a simple, painless, and nondisturbing means of restoring equilibrium to the balance of payments.

An ideal system would require complete international currency management, with free but stable exchanges and mobilized reserves of the sort now available within a single country. Such an ideal can hardly be realized without an effective form of world government. We may conclude that, in the absence of conditions necessary for achieving this ideal, the International Monetary Fund, with its companion International Bank for Reconstruction and Development, offers a mechanism by means of which there exists a possibility of achieving something of the best of both monetary worlds; *i.e.*, basic exchange stability with protection against dangers of short-term disturbances in the balance of payments, and sufficient exchange flexibility to permit individual countries to pursue the goal of full employment. But the mere existence of the mechanism is in itself no guarantee of successful operation. Rather, it can only aid the world to restore and maintain normal trade and full employment when individual countries achieve internal stability and external equilibrium.

Questions for Study

1. What reasons can you give in favor of independent paper currencies?
2.
 - a) What is the significance of the belief that prices are becoming more inflexible?
 - b) What evidence can you give to support the view that price inflexibility is greater than it was before 1914?
 - c) Examine Charts 32 through 35. What are Tucker's reasons for believing that insensitive prices are not on the increase?
3. Can you explain why independent currencies have an inflationary bias?
4. It is argued that independent currencies discourage long-term international lending.
 - a) What is the basis for this belief?
 - b) How do the advocates of independent currencies answer this?
 - c) How do the practices of exchange control and blocked balances affect international lending?
5. What are the relative merits of an international currency and independent paper currencies in avoiding troublesome short-term capital flight?

Why is this question not so urgent as it once was?

6. A strong case is made for independent currencies on the grounds that they facilitate efforts at domestic stabilization.
 - a) How valid is the claim that foreign depressions are prevented from spreading to the domestic economy?
 - b) To what extent can a policy of domestic stabilization and full employment be pursued under an international monetary system?
7. What advantages might be achieved by international co-operation? Why is such co-operation difficult to achieve?
8. Along what lines might international monetary co-operation proceed? What contributions might the International Monetary Fund make to such an effort?

Instruments and Methods of Internal Monetary Management

WHETHER AN INDEPENDENT OR AN INTERNATIONAL CURRENCY SYSTEM is in use, the modern world does not permit an escape from some degree of monetary management. Essentially, all efforts at monetary management are national in nature, with international co-operation but an extension and a co-ordination of management policies of individual countries. Before taking up the proper *standards* for monetary management, it will be helpful to examine the methods that may be used to exercise the desired control.

Central bank credit policy has long been recognized and accepted as a primary instrument of credit and monetary control. And in spite of the rude blow to its prestige during the depression of the 1930's, it still holds a key position in any practical system of monetary management. The reason for this fact will become clearer as we examine the limitations of other available methods of control. It is useful, therefore, to re-examine central bank credit policy at this time so that it may be put in its proper place in relation to other available and proposed control methods.

THE CENTRAL BANK AS AN INSTRUMENT OF MONETARY CONTROL

The place of bank credit in the monetary system needs no further examination at this point. It is also unnecessary to repeat here a detailed discussion of the various methods by which central banks, as represented by the Federal Reserve System, may influence the money market. It will be enough merely to review these methods of control in broad outline.

Central banks' contact with the money market. First, it is clear that control over the volume of credit depends primarily upon the central bank's being in contact with the money market. This means simply that the central bank's control rests on its ability to vary the volume and effectiveness of commercial bank reserves that support the credit superstructure. Whenever the commercial banking system is dependent upon central bank credit for its required cash reserves, the central bank is in contact with the money market and is in a position to exercise some credit control.

The Federal Reserve Banks, being central banks, are in a position to influence general credit conditions whenever member banks are dependent on Federal Reserve Bank credit for some significant part of their required reserves. In order for this to be true, the total amount of outstanding Federal Reserve Bank credit must exceed by some margin the excess reserves of the member banks. In the earlier days of the Federal Reserve System, it was customary for the Federal Reserve Banks to encourage member banks to become dependent on reserve bank credit so that the desired contact would exist. Thus, a lowering of the Federal Reserve Banks' discount rates and some expansion of their open-market holdings of securities tended to encourage member banks to expand their loans and investments to a point where the banks were dependent on reserve bank credit. Then, when occasion arose, restraining action by the reserve banks would become effective in checking undesirable expansion. During the latter half of the 1930's, the enormous increase in gold holdings of the United States so increased member bank excess reserves that reserve bank contact with the money market became impossible. During the war, however, member bank reserves were put under extraordinary pressure. This pressure resulted both from the increased requirements for currency in circulation and from the need for increased reserves to support the war-generated expansion in deposits. Consequently, the Federal Reserve System purchased, in the open market, government obligations to the amount of over \$24 billions. Since the war, there has been no question of the existence of contact with the money market by the Federal Reserve Banks. Instead, the question has become merely one of the willingness of Federal Reserve authorities, under the existing conditions, to exploit that contact for the purpose of exercising restraint when it appears to be needed.

A supplemental device for aiding the Federal Reserve Banks to keep in contact with the money market is, of course, the power of the Board of Governors to vary reserve requirements of member banks. Whenever such requirements are less than the allowable maximum, an increase may be ordered to absorb excess reserves, and where excess reserves are insignificant, to raise the degree of dependence of member banks on Federal Reserve Bank credit.

Instruments of control of the Federal Reserve Banks. Traditionally, the central bank discount rate, which determines the cost of borrowing additional cash reserves by the commercial banks, was considered the prime instrument of central bank credit control. But under present-day conditions, with such bank borrowings at an insignificant level, the discount rate of the Federal Reserve Banks no longer exercise anything but a moral or persuasive influence on the money market. In contrast to the very small volume of Federal Reserve Bank credit that originates from commercial bank borrowing and rediscounting (in October 1949, it was but \$112 million) the bulk of Federal Reserve credit today originates from the reserve bank holdings of United States Government securities. In October 1949, these stood at \$17 billion, and since excess reserves of member banks were less than \$1 billion, ample Federal Reserve Bank contact with the money market existed.

The second well-recognized instrument of credit control is the "open-market operations" of the Federal Reserve Banks. By the purchase of government securities, the Federal Reserve Banks can increase member bank reserves at will. By selling securities, they can reduce by a corresponding amount the reserve balances of the member banks. Thus the Federal Reserve Bank purchase of securities encourages, though it cannot compel, member bank credit expansion. The sale of securities by the Federal Reserve Banks, in turn, can impose credit restriction by reducing reserve balances of member banks and compelling the banks to resort to rediscounting or borrowing at the reserve banks. This exposes the member banks to the restraints inherent in the Federal Reserve discount rate policy. The tremendous holdings of government securities by the Federal Reserve Banks leaves no doubt about their power to exercise restraint on the money market by reducing these holdings. But the reserve banks are prevented from utilizing their power to control the money market through

open-market operations by the Federal Reserve System policy, adopted at the beginning of the war and continued ever since, that the price of government securities should be supported and stabilized. Consequently, the open-market dealings cannot be utilized to restrain credit, and thus raise interest rates, where the effect is bound to be some fall in the price of securities. Member banks, confronted by a loss of reserves, have only to sell government securities, of which they have an abundance, in the open market. There they will be picked up by the Federal Reserve Banks in the pursuit of the System's bond price support policy.

Because of the conflict of discount rate and open-market policy with the policy of supporting government bond prices, the Federal Reserve System has been compelled to make use of other instruments of control. First, it has utilized changes in reserve requirements that not only permit absorption of excess reserves when desirable but also provide an offset to reserves created by the purchase of government securities by the Federal Reserve Banks in the pursuit of the policy of stabilizing the government bond market. To make this control more effective, the Board of Governors of the Federal Reserve System has repeatedly requested that its powers to raise requirements be expanded. Second, the System has turned to the use of selective credit controls that restrain credit by imposing limitations on particular forms of credit without attempting to tighten the credit situation generally. These controls include margin requirements on loans to finance trading in stocks, and consumer credit regulations previously authorized by law.

FISCAL POLICY AND MONETARY MANAGEMENT

Before the depression of the 1930's, central bank credit policy was generally looked upon as the appropriate tool for stabilizing business activity and for combatting depression and unemployment. It was the common view that the problem of employment was primarily one of economic stability. Preventing unemployment, therefore, involved first the prevention of booms and inflations that would inevitably bring about depression and unemployment. Depression was to be combatted directly by lowering interest rates and thus encouraging investment and business activity. Unemployment was but an unfortunate aftereffect of booms, and represented only a temporary departure from the

norm of full employment. It is easy to understand, therefore, the widespread confidence in central bank credit policy as a proper and competent regulator of economic fluctuations. This view found support in the apparent effectiveness of credit policy during the 1920's up to the collapse of 1929.

The depression of the 1930's proved to be more than a mere short-run reaction from the preceding happy boom. So severe was this reaction, and so profound the depression and its accompanying loss of confidence, that the conventional "easy money" policies of the central bank became completely inadequate as a stimulus to recovery. Furthermore, the collapse of the boom itself in 1929 was a rude shock to those who believed that the Federal Reserve Board had so successfully solved the problem of monetary and credit regulation as to guarantee an indefinite period of prosperity, enthusiastically referred to as the *New Era*. Consequently, central bank credit policy, discredited as a device to insure stability and full employment, gave way in popular interest and support to government fiscal policy.

The significance of government fiscal policy today stems from two sources. First, unlike central bank credit policy, government fiscal policy may be used to bring about, rather than merely permit, an expansion in money income flow during periods of depression and unemployment. This may be accomplished both through the making of grants to consumers and through investment in public works. Either action tends to increase the money income flow and is subject to the well-known multiplier effect. Second, the great size of government expenditures during the years since the war makes possible the use of fiscal policy to influence the flow of money income without making any special modification in the level of government spending. With a Federal budget in the neighborhood of \$40 billions, the income flow can be modified substantially by changing the relation of tax revenues to expenditures. High taxes as compared to expenditures tend to impose restriction upon the income flow, and deficit financing has the opposite effect. It is little wonder that the shiny splendors of this newly found and appreciated tool of monetary policy have tended to overshadow the more modest results of central bank credit policy.

The effects of changing the depositaries of government funds.
Assembly of government funds through taxation or borrowing re-

quires that these funds shall be carried while awaiting disbursement. If they are deposited in the commercial banks, the reserve position of the banking system will not be affected. If, however, the Treasury deposits part of its idle funds in the central bank, there results a decline in the reserve balances of the commercial banks by an amount equal to such deposited funds. On the other hand, the subsequent spending of these funds restores bank reserves to their former position.

Variations in government investment. The root of economic fluctuations appears to lie in variations in the rate of private investment. Without doubt, central banks can impose sufficient restraints to head off an overexpansion of private investment that threatens to become an inflationary boom. But when unemployment appears because of a decline in private investment, central bank policy can only expand the supply of funds *available for* investment; it cannot compel that investment to take place. There can be no doubt that easy money and low interest rates cannot adequately stimulate investment if severe depression has reduced the prospective marginal productivity of capital to zero or below. Therefore, some direct expansion of investment by the government in the form of public works provides a possible solution.

To be genuinely effective in expanding investment during depression, public works require (1) proper timing; (2) proper financing; and (3) widespread approval in the business and investing community. The need for proper timing is obvious. Plans must be ready for rapid use if falling private investment is to be offset. At the same time, public works should be gradually terminated with the recovery of private investment. Such a program calls for long-range planning, as short-run improvisation is strewn with pitfalls.

Proper financing of public works requires measures that will be certain to provide a net increase in investment. But unless one visualizes a continually rising national debt, ultimate payment by the taxpayers cannot be avoided, and the proper timing of such taxes becomes an important question. The most promising procedure is to finance part of the expenditure for public works by expanding the government debt in the form of Treasury bills and notes. This policy encourages the banks to use their excess reserves as a basis for loan and deposit expansion. Government

borrowing thus tends to replace private borrowing at the banks. In addition, the issue of government bonds will induce some investment by capitalists and institutional investors who otherwise would tend to hoard their cash accumulations because of investment uncertainties. As a partial alternative to the sale of bonds, the government might impose heavier taxes upon large incomes from which arise heavy accumulations of idle savings during depressions. This action, however, might have undesirable psychological results. The expansion of the government debt during depressions calls for its retirement during better times. Here, again, the timing problem may be a difficult one.

Of quite a different sort is the problem that would attend the use of public works or government investment as a means of counteracting chronic depression. Some economists believe that the approach of "economic maturity" of the capitalistic system inevitably leads to a condition of chronic depression owing to the continued lag in private investment. This view suggests that a return to anything like continued prosperity will require a constant expansion of government investment to fill the gap left by the decline of private investment and the continued high propensity to save.

Finally, the success of public works in promoting recovery depends largely upon the approval of the business community. If businessmen believe that public works will be beneficial to business, they will respond favorably, and in turn will expand their own investments. On the other hand, private investment will not be stimulated if businessmen generally look upon public works as the height of folly. Indeed, under such circumstances, private investment may well fall below the level that would have been maintained in the absence of public works.

Functional finance; budgetary surpluses and deficits. Because the Federal budget is of such enormous proportions, stabilizing operations aimed at the maintenance of full employment may be successfully carried out without resort to the variable program of public works described in the preceding section. Instead, to combat depression and unemployment, Government expenditures may simply be allowed to exceed the tax revenues by an amount sufficient to restore the desired income level. The beneficial effect, obviously, must flow from the expansionary character of Government spending when the money is obtained by borrowing

uninvested savings or new bank credit. So long as employment and income are below the desired level, deficit financing will continue. On the other hand, during inflations tax revenues should be maintained sufficiently above expenditures to prevent an expansion of income.

In so far as the fluctuations to be offset are cyclical in character, the aim would be a budget balanced *cyclically* rather than annually. Should unemployment appear to be chronic in nature, a proper fiscal policy would require a constant increase in the public debt. Understandably enough, there is likely to be opposition to the use of an unbalanced budget for the purpose of economic stabilization and promotion of full employment. Budgetary deficits are associated in the public mind with unsound monetary policies, and with good reason in many countries. Such opposition can be overcome only by demonstration that a plan for "functional finance" is soundly conceived and carefully and systematically operated without political interference.

The attraction of the use of fiscal policy is enhanced by the realization that, with a level of government expenditure of from thirty to forty billion dollars, it is practicable to offset almost any possible decline that might occur in private investment. Moreover, a general acceptance of fiscal policy as a means of combatting unemployment would certainly have a strong tendency to sustain private investment incentives.

There are a number of serious problems that arise in any attempt to adopt a system of "functional finance." First, to be effective, it is necessary that a flexible system of taxes be introduced. It is unlikely that a sufficient degree of flexibility in tax revenues can be "built in" so as to avoid the necessity of a change in tax rates, upward during booms and downward during depressions.¹ Awaiting Congressional action in such matters would involve such delays as to nullify most of the benefits. Particularly is delay likely in enacting laws that would raise taxes during booms. But the possibility of persuading Congress to transfer to some qualified administrative authority the power to introduce necessary changes in tax rates appears remote indeed.

Closely related to the problem of tax flexibility is the infla-

¹ For a proposal that would involve no contracyclical tax adjustments, see Milton Friedman's "A Monetary and Fiscal Framework for Economic Stability," *American Economic Review*, June 1948.

tionary bias of most political decisions. For this reason, brakes upon inflation in the form of higher taxes are likely to be applied reluctantly and tardily by Congress. The Congressional enthusiasm for tax *reduction* during the 1947-1948 boom is a case in point. Hence it becomes imperative that central bank credit policy be kept effective and available for use in imposing needed restraints during booms. Indeed, it appears likely that effective control must require a combination of fiscal policy and central bank credit policy.

The need for coordination of central bank and fiscal policy. We have already noted some of the limitations of central bank credit policy and fiscal policy. Acting alone, neither appears equal to the task of stabilizing business. Consequently, it is most important that some effective agency be established to coordinate credit and fiscal policy as far as possible under existing conditions. However, until Congress is persuaded to transfer authority to initiate contracyclical changes in tax revenues to such an agency, there is not too much reason to expect constructive results from fiscal policy.

SOME PROPOSED CONTROLS: THE STABILIZED DOLLAR AND 100 PER CENT MONEY

Many proposals for monetary reform have been advanced from time to time. Perhaps the ones that have aroused the most discussion and controversy were those supported by Professor Irving Fisher.

Fisher's plan for stabilizing prices. One of the earliest proposals for introducing control over the domestic currency in a gold standard world was Fisher's plan for the Stabilized Dollar.² Briefly, his plan contained these proposals:

1. The currency should consist of dollar certificates redeemable in a dollar's worth of gold.
2. The amount of gold contained in the dollar should be varied from time to time in such a manner as to offset and prevent price movements.
3. Whenever wholesale prices rise, the weight of the gold dollar should be increased. Whenever the wholesale price index falls, the weight of the gold dollar should be reduced. The suggested maximum amount of increase or decrease in the weight of

² *Stabilizing the Dollar*, New York, The Macmillan Co., 1920.

the dollar is 1 per cent every two months until the rise or fall in prices is checked.

4. To prevent speculators from taking advantage of the prospective changes in the gold content of the dollar, a spread of 1 per cent should be maintained between the buying and selling price of gold in terms of dollar certificates.

Two reasons can be given for thinking that, in a gold standard world, changes in the gold content of the dollar might be effective in stabilizing prices. First, a lowering of the gold content would lower the foreign exchange value of the dollar and result in its undervaluation. The stimulating effect on exports and the restrictive effect on imports resulting from this undervaluation would assist in raising domestic prices. Second, lowering the gold content of the dollar would leave unused or free gold in the Treasury against which new dollar certificates might be issued. These could be spent in lieu of taxes and would have an inflationary effect. An increase in the gold content of the dollar, on the other hand, might be expected to have an effect just the opposite from that of decreasing it.

Although the Stabilized Dollar proposal was never adopted, in a sense it was the forerunner both of the depression-born attempts to expand employment by exchange depreciation and of the sliding parity provisions of the International Monetary Fund. The latter, of course, are designed to correct fundamental disequilibrium in the balance of payments and to *permit* monetary management rather than as an instrument by which management is carried out.

100 per cent money. A radically different means of establishing control over the quantity of money has been suggested by the advocates of the 100 per cent reserve plan of banking reform.³ The present supply of "effective money," it is pointed out, consists primarily of demand deposits in banks. The volume of such deposits is directly related to and governed by the volume of bank loans and investments. It follows, therefore, that the volume of money in the form of demand deposits is limited by the supply of available bank reserves and the willingness and ability of the banks

³ For a description of this proposal and the advantages claimed for it, see Fisher, Irving, *100 Per Cent Money*, New York, Adelphi Co. (Greenberg), 1935; Currie, Lauchlin, *Supply and Control of Money in the United States*, Cambridge, Harvard University Press, 1931, pp. 157-183; and Simons, Henry, *A Positive Program for Laissez Faire*, Chicago, University of Chicago Press, 1934, pp. 23-26.

to make loans and investments. Although the volume of bank reserves is subject to control through the action of the central bank, the regulation of the quantity of bank credit based upon these reserves is difficult if not impossible. Indeed, it is held by advocates of 100 per cent money that bank credit is perversely elastic. In times of business expansion, borrowers flock to the banks to increase their liquid resources. As business improves, the banks become increasingly willing to make loans. There results an inflationary expansion of money leading to rising prices and economic disequilibrium. On the other hand, once business prospects decline, bank credit shrinks. Borrowers repay their loans both because they find it no longer desirable to remain in debt and because banks force repayment. This situation is accompanied by a fall in prices and depression in business. Credit liquidation may become especially acute in the case of a general loss of confidence in banks that leads to runs and compels the banks to reduce loans in order to improve their cash reserve ratio.

Advocates of 100 per cent money visualize the difficulties of monetary management as deriving from the privilege and ability of banks, operating with a fractional reserve against demand deposits, to change the volume of their earning assets and thus to vary the volume of deposit currency based upon any given and controlled volume of reserves. The 100 per cent money plan seeks to free the economic system of the curse from such fluctuations in the volume of deposit currency by requiring that all demand deposits held by banks be backed by a full 100 per cent reserve. With such an arrangement, any variation in the volume of demand deposits is dependent upon equal variations in the volume of available cash reserves.

The 100 per cent money plan would provide that banks should acquire cash reserves to the full amount of their existing demand deposits either by selling their earning assets, government bonds for instance, to the Monetary Authority for cash, or by borrowing from the Monetary Authority on the security of their earning assets. In either event, future changes in the quantity of demand deposits would depend solely on the action of the Monetary Authority, which would buy securities in the open market to increase demand deposits and sell securities to reduce them.

Although the advocates of 100 per cent money have stressed the ability of the Monetary Authority to prevent deposit expansion

during booms, this is hardly a strong argument in behalf of the plan. As is well recognized, under the present fractional reserve system, the Federal Reserve System is amply able to impose restraint. Therefore the main contribution to stability that the plan offers is elimination of demand deposit shrinkage caused by forced liquidation of bank loans in times of depression. But even this laudable result could not be effectively realized unless all short-term loans, subject to liquidation during depression, are eliminated. It was not the intention, however, of the advocates of the plan that the short-term loan market be abolished. Indeed they stressed the continuation of the loan functions of the time deposit departments of banks. But in doing this they overlooked the fact that all or nearly all of the influences operating to cause loan reduction (and consequent deposit reduction) by commercial banks also operate to cause the reduction of loans of time deposit banks. In fact, all lenders are certain to press for repayment of their short-term loans whenever the borrower's solvency becomes threatened or their own needs for cash liquidity expand. Whenever the time deposit department of a bank demands repayment of short-term loans, as it will tend to do in depressions, the result is an accumulation of idle funds in the bank's hands in an amount equal to the amount of deposits destroyed by similar action by commercial banks. One is forced to the conclusion that the success of the 100 per cent money plan would require abolition of the short-term loan market, including *all* lending of that nature by time deposit banks, finance companies, etc. Even the extension of trade credit, easily restricted in depressions, might have to be banned. Such drastic change in the loan structure, however, is unlikely. Although the plan found substantial support during the years of the depression, its appeal seems gradually to have disappeared.

COMPOSITE COMMODITY UNITS AS THE BASIS FOR PAPER CURRENCY

The idea that paper money might well be based upon commodities other than gold is by no means a new one. During depressions, businessmen frequently feel an acute need for funds that are not for the time being readily available through the normal credit channels. At such times, the idea of coining commodities into money has a special appeal. Proposals to create money upon the basis of stored commodities, however, have gen-

erally been looked upon as inflationary and contrary to the best interests of monetary stability.⁴ But an interesting proposal to use commodities as a basis of currency issues has been advanced that is designed to provide and to insure stability of commodity prices.⁵

A stable money based on commodities. A dollar that will have a constant purchasing power over commodities is the goal of all stable money plans. What could be more reasonable, therefore, than to insure this constancy by providing that dollars be made interchangeable with a given volume of commodities? To do this would require the establishment of composite units comprised of staple, storable, primary commodities in their proper proportions. The dollar value of such units would be fixed in accordance with the total value of the commodities included in them, at prices of the date chosen for beginning stabilization efforts. At any time, holders of dollars could convert them at this fixed rate into units of commodities. Likewise, any holders of a unit of commodities might present warehouse receipts for the same to the monetary authority and receive paper dollars in return. Such a system is believed to assure that the price level of the units of commodities used as the standard would always remain stable. If, for example, the prices of commodities making up the commodity unit tend to fall, such commodities, in the proper proportions, will be put into storage and the warehouse receipts will be converted into money. On the other hand, whenever the market prices of the commodities tend to rise, these receipts will be redeemed by presenting dollars, and will be sold at the market price. Such a system would automatically lead to an expansion of currency when prices begin to fall and a decrease in the currency whenever prices start to rise. Because the money value of the *whole* composite unit is stabilized, the price of any individual commodity in the unit is free to rise or fall as the demand for it relative to its supply rises or falls. Thus adjustment of output of particular

⁴ For a discussion of commodity money proposals of the depression years of the early 1920's, see Foster, Wm. T., and Catchings, Waddill, *Money*, Boston, Houghton Mifflin Co., 1924, Chapter VII.

⁵ Cf. Graham, Frank D., "The Primary Functions of Money and Their Consumption in Monetary Policy," *American Economic Review*, Supplement, March 1940, and Graham, Benjamin, *Storage and Stability*, New York, McGraw-Hill Book Co., 1937.

commodities is encouraged by the movement of individual prices within the fixed unit.

Such a direct method of stabilizing the price level of staples comprising the commodity unit promises a more effective control over the general price level than does monetary management directed at the expansion and contraction of the quantity of money.⁶ Professor Graham held that such a system of money would provide an automatic method of satisfying the varying degrees of liquidity preferences of the public. Whenever the demand for cash balances instead of goods increases, the public can quickly and easily satisfy its desires by converting goods into money through the monetary authority. Whenever liquidity preference diminishes again, the process can be reversed.⁷

Should the composite commodity units be used as the basis for the currency of a single country, the resulting stability of the domestic price level would, of course, require exchange-rate flexibility.

Commodity units as a basis for an international monetary system. The advocates of the use of commodity units as a monetary base hold that such a system need not be limited to a single country. Instead, they hold that it may be extended to provide a basis for an international currency embodying the good points of the gold standard but free from some of its shortcomings. To establish such a system each country desiring to become a member would adopt the international composite commodity unit agreed upon by the countries involved and would thereafter agree to buy and sell such commodity units at a fixed price in terms of its own currency. A country belonging to the system might at the same time maintain the gold standard by freely purchasing and selling gold at a fixed price. In this case there would result a fixed price for the commodity unit in terms of gold as well as in terms of the country's currency. But even if the currencies of countries were not tied to gold, the maintenance of a fixed price for the international commodity unit by the member countries would introduce an exchange-rate parity among them.

Professor Hayek holds that such an international commodity

⁶ Cf. Hayek, F. A., "A Commodity Reserve Currency," *Economic Journal*, June-September 1943, p. 180.

⁷ Graham, Frank D., *op. cit.*

unit currency system offers the major benefits of the gold standard, namely, the provision of an automatic and predictable system of international currency, operating under fixed rules, and not requiring that decisions of national policy be subject to control by some international authority. He believes that, in addition, the system would have some positive advantages over the gold standard. First, it promises both exchange-rate stability and a high degree of world commodity price level stability which the gold standard cannot offer. This is possible because changes in the liquidity demands may be largely satisfied by an expansion of currency against the deposit of composite commodity units with the Monetary Authority. The gold standard could provide no short-run currency expansion in the face of greater demand, as evidenced by falling commodity prices, and only a slow expansion through increased gold production in the long run. Moreover, under the gold standard a retreat by the public from commodities to liquidity is necessarily accompanied by a fall in commodity prices and in output, but under the proposed system the output of basic commodities as a whole, though not of particular items in excess supply, can be maintained. Thus employment can be maintained and a future supply of basic commodities accumulated against future shortages.⁸

Objections to the use of the commodity unit currency reserve plan on a national basis. From the viewpoint of workability, the commodity unit currency reserve plan ought to be most applicable to a single country with an independent currency system. The main problem would then appear to arise in respect to the appropriate commodity items to be included in the unit and the proper weight of each. In order that the plan be effective in controlling general prices, it would be necessary to include in the composite commodity unit a representative sample of all of the important goods that enter the markets. This means that a sample list of staples would be insufficient, for there is no reason to expect the general price level to follow the price of such staples. If, for example, a recovery period found prices of raw-material staples rising sharply, this system would reduce the quantity of money irrespective of the behavior of general prices. But as the number of such commodities that are included in the unit is increased,

⁸ Hayek, *op. cit.*

the difficulties of administration become enormously magnified. The problem presented by storage, for instance, is a serious one, and the familiar difficulty of proper proportions or weights of the different commodities in the representative unit also presents itself.

The suggested rule for governing weights of the different items making up the commodity unit is that they be weighted according to the relative importance of each in the economy of the country. This rule might be rigorously defined and adhered to through the application of some agreed upon formula. But the actual composition and weights in the unit must necessarily be subject to periodic revision. At such times when revisions are made, a good deal of political jockeying might arise among pressure groups for the adoption of weights that would be favorable to the producers of particular commodities. For example, should technological changes reduce the demand for cotton and hence weaken its price, it would clearly be to the interest of the cotton industry to attempt to increase the weight of cotton in the commodity unit whose price is stabilized. On the other hand, should the cost of cotton growing rise, greater "room" for an increase in the price of cotton would result from reducing the weight of cotton in the composite unit. Also, should the cost of cotton growing fall because of technological improvements, the cotton industry would benefit from an increase in the weight of cotton in the composite unit whose price is stabilized. But the fact that conflict of interests may arise does not mean that the plan cannot be made to work. It does mean that it cannot be expected to be a panacea that will end all monetary problems.

Yet another difficulty may arise, whether the plan is put upon a national or an international basis. Any scheme aimed at general price stabilization is in danger of colliding head-on with the desire of labor for wage increases that exceed the growth of labor efficiency. In such a case, rigid prices might well provoke unemployment.⁹ This possibility, of course, is not peculiar to the commodity reserve plan for it would arise in connection with any proposed method of stabilizing prices.

In addition, there is no reason to think that this scheme would solve the liquidity-preference problem satisfactorily. The indi-

⁹ Cf. Keynes, J. M., "The Objective of International Price Stability," *Economic Journal*, June-Sept. 1943, pp. 185-187.

viduals who become afflicted with an annoying attack of liquidity preference during depressions are by no means confined to merchants and dealers in merchandise. Equally troublesome is the liquidity preference of investors in securities and of business firms that would normally be purchasing new equipment, machines, tools, buildings, and so forth. None of these individuals would be in a position to satisfy their liquidity preferences by the pledge of staples, so as to keep up the price of the things that they ought to buy but will not.

Objections to an international commodity reserve currency standard. The problem of weighting individual commodities in the commodity unit constitutes a most serious barrier to the introduction of an international commodity currency reserve standard. Within a single country, the conflicting interests represented by the different commodity producers might be harmonized without too much difficulty. Mr. Benjamin Graham's unit, comprised of twenty-four different commodities, might indeed prove acceptable for the United States. But an attempt to use a similar list with similar weights for an international standard would surely meet with serious opposition. A unit that is suitable for the economy of the United States could not be expected to fit the needs of countries with different production patterns. For example, let us suppose that wool were given a weight in the composite commodity unit in proportion to its importance in the economy of the United States. In such a case, wool's weight would be relatively small. Should the price of wool drop sharply in the world markets, the price of the composite unit would fall somewhat but only by a relatively small amount, since wool constitutes but a modest fraction of the total unit. Therefore, the sale of commodity units for currency in the various countries would continue until the combined commodity unit had risen to its fixed price. But only a modest amount of wool would be taken off the market by this process, and its price would be raised but little. Australia, with an economy and income structure based largely upon the world price of wool, would in no way be insured of a stable price and income level by the stabilization of the price of an international commodity unit suited to the needs of countries like the United States. Instead, Australia would require a unit heavily weighted for wool if it were to benefit from such a system. Similarly, Brazil would need a unit in which coffee was heavily weighted. Like-

wise an industrialized country little given to the production of staples of the sort usually recommended for inclusion in the composite commodity unit would find little relief from a fall in business and income arising from domestic causes. For the price of the commodity unit would be but moderately depressed by the depression in the country concerned. Also, little expansion of domestic currency could arise out of the deposit of commodity units with the monetary authority of the depression country.¹⁰ We may well conclude that single-crop countries would find adherence to an international commodity standard of little advantage. Such adherence would be likely to expose them to a deflationary fate similar to that offered by the gold standard in case of a fall in the world price of their principal product. Such countries, therefore, would be well advised to stick to an independent currency with flexible exchange rates.

In spite of the difficulties just discussed, it is possible that a limited adoption of an international commodity reserve standard by the principal industrial countries might well introduce a helpful element of stability not only in their own economies but in the economies of other countries as well. Such a development need not conflict with the aims of the International Monetary Fund, for it would provide a method of reducing one threat of deflation that normally exists under stable exchange rates, namely, a drop in the prices of international staples and the commodities closely related to them.

Questions for Study

1. In what manner do the Federal Reserve Banks influence or control the volume of money and credit?
2. Why is their power to restrain greater than their power to induce expansion?
3. Why have open-market operations become so much more important than discount rate policy?
4. Why does the postwar policy of supporting government bond prices deprive the Federal Reserve System of effective power to regulate the cost and availability of credit?

¹⁰ For a development of this argument, see Rosenson, Alex, "International Commodity Reserve Standard Reconsidered," *The Review of Economics and Statistics*, May 1938.

5. a) Why is government fiscal policy a better means for combatting depression than central bank credit policy?
b) Why is fiscal policy likely to be ineffective in resisting inflation?
6. Contrast *variations in government investment* with *tax revenue flexibility* as a method of combatting business fluctuations.
7. Why is it now commonly said that the Federal budget should be balanced cyclically?
8. The 100 per cent money plan has been advanced as a means of escape from the perverse elasticity of bank credit and money during the business cycle.
 - a) Under such a plan when and how would the quantity of money be varied?
 - b) Why would its benefits be confined mainly to the avoidance of forced liquidation during depressions?
 - c) Why would its success seem to require the abolition of all short-term lending?
9. a) What is the nature of the composite commodity-unit money proposal?
 - b) Why would it tend to stabilize prices?
 - c) What political problems would arise under it?

Standards of Credit and Monetary Policy

CREDIT AND MONETARY POLICY PROVIDES THE CORE OF MOST PROPOSED methods for promoting economic stability and full employment. It is appropriate, therefore, that we examine the possible standards by which such policy should be guided. There have been two widely divergent views as to the proper standards or guides for monetary and credit policy. The first emphasizes the importance of *quality* of bank credit. The second emphasizes the importance of *quantity* of bank credit and money. Up to about 1935, the credit policies of the Federal Reserve System were essentially qualitative in character. Since that time, there has been a shift in the direction of quantitative standards.

THE QUALITATIVE STANDARD OF CREDIT POLICY

The conflict between the qualitative and quantitative standards of credit policy is not a new one. An early, clear-cut example of the difference between these views occurred in connection with the celebrated Bullion Report of 1810.

The Bullion Report. Because of temporary difficulties, the Bank of England was permitted to suspend the redemption of its notes in specie under the authority of the Restriction Act of 1797. The government was at that time waging a great war, and found freedom from monetary restrictions to its liking, and for this reason allowed the Restriction Act to remain in force. At first, no noticeable depreciation of the pound developed, but by 1808-1809 depreciation had become serious enough to attract public attention. The result was the appointment of a committee by the House of Commons on February 19, 1810, to investigate the reasons why the pound had depreciated in terms of gold and for-

eign currencies. The report of this Committee was ordered printed on June 8, 1810.¹

The Committee had occasion, in the course of its investigation, to inquire of the managers of the Bank of England as to whether or not the depreciation of the gold and foreign exchange value of the pound might be due to excessive issues of inconvertible notes. In reply, the Bank of England managers insisted that the decline in the value of the pound must have been due to a rise in the value of gold because of its scarcity on the Continent of Europe. It was impossible, in their view, that the value of the pound should decline because of the issue of notes by the Bank, for it issued such notes only against "legitimate mercantile paper." It was held unnecessary that the behavior of foreign exchange rates or the price of gold bullion be consulted to determine the correctness of the volume of note issue.² The only requirement for a sound currency was that the Bank lend on self-liquidating commercial paper, to use a phrase made familiar by the rules governing the rediscount of eligible paper by the Federal Reserve Banks.

The Committee rejected this view expressed by the managers of the Bank of England, and branded as fallacious the idea that no excessive supply of currency could result from the discount of perfectly good bills. To quote: ³

The fallacy, upon which it is founded, lies in not distinguishing between an advance of capital to merchants, and an additional supply of currency to the general mass of circulating medium. If the advance of capital only is considered, as made to those who are ready to employ it in judicious and productive undertakings, it is evident there need be no other limit to the total amount of advances than what the means of the lender, and his prudence in the selection of borrowers may impose. But in the present situation of the Bank, intrusted as it is with the function of supplying the public with that paper currency which forms the basis of our circulation, and at the same time not subjected to the liability of converting the paper into specie, every advance which it makes of capital to the merchants in the shape of discount, becomes an addition also to the mass of circulating medium. In the first instance, when the advance is made by notes paid in discount of a bill, it

¹ See Cannan, Edwin, *The Paper Pound of 1797-1821*, London, P. S. King & Son, 1925, pp. vii-xxii.

² *Ibid.*, pp. 46-50.

³ *Ibid.*, p. 50.

is undoubtedly so much capital, so much power of making purchases, placed in the hands of the merchant who receives the notes; and if those hands are safe, the operation is so far, and in this its first step, useful and productive to the public. But as soon as the portion of circulating medium, in which the advance was thus made, performs in the hands of him to whom it was advanced this its first operation as capital, as soon as the notes are exchanged by him for some other article which is capital, they fall into the channel of circulation as so much circulating medium, and form an addition to the mass of currency. The necessary effect of every such addition to the mass, is to diminish the relative value of any given portion of that mass in exchange for commodities.

The Committee therefore rejected the notion that the depreciation of the pound could not have been caused by an excess note issue by the Bank of England. It recommended that resumption of specie redemption of notes be undertaken as a means of restoring the pound to its old position. In spite of the Committee's recommendations, resumption was delayed until 1821. The rejection of the purely qualitative standard by the Committee was accompanied by a demand for a limited form of quantitative control through specie redemption. Such a quantitative standard is, of course, necessary if an international specie standard is to be maintained.

The self-liquidating commercial loan or "banking theory" of credit policy. The theory of bank credit that developed in England after the resumption of specie payments in 1821 was based upon an acceptance of the basic rule laid down in the Bullion Report. The redemption of currency in specie, plus the extension of sound commercial credit to business, came to be accepted as the proper test of credit policy. This was known as the "banking principle."⁴ Actually, this was not widely different from the theory held by the managers of the Bank of England. To the rule that credit should be issued only to sound businessmen

⁴ Ricardo lent his influence to this view. See Ricardo's *Economic Essays*, Gonner, ed., London, G. Bell & Sons, 1926, pp. 3-10. Writers who held that the premium on bullion, the depreciation of the exchange value of the pound, and high commodity prices were symptoms of an excessive currency issue were known as *bullionists*. For a thorough survey of the economic thinking that came out of the bullionist controversies of the period, see Viner's *Studies in the Theory of International Trade*, New York, Harper & Bros., 1937, Chapters III and IV. Also see T. E. Gregory's Introduction to Took and Newmarch, *A History of Prices*, London, P. S. King & Son, republished 1928, Vol. I.

for current purposes, the Bullion Report added the limiting feature of specie redemption.

It was not long until difficulties developed in the application of the banking principle. The occurrence of a boom in 1824-1825 and the crisis of 1826 indicated clearly that the maintenance of convertibility was insufficient to guarantee a properly regulated currency. Experiences such as this led to the development of an opposing school of thought which advocated the "currency principle."

The "currency school." Opposed to the banking principle were the members of the "currency school," who held that the limits upon currency and credit set by sound commercial loans and the conversion of currency into specie were inadequate. The banking principle was believed to lend itself to improper excesses and shortages of the currency, all of which accentuated the tendency toward booms and depressions.⁵

The currency school held that a mixed currency, consisting of convertible paper notes and specie, would behave correctly only if the total volume fluctuated in absolute amounts with the import and export of specie. This principle required that the issue of paper money be made to fluctuate with changes in the quantity of specie held by the issuing banks. The Bank Act of 1844 (Peel's Act) was designed to put into operation the principles of the currency school. Except for a small uncovered issue based upon government securities, Bank of England notes were to be issued only against gold. Thus, changes in the volume of notes were limited to changes in the volume of gold held by the issue department.

The experience with the application of the currency principle was disappointing. As the banking school pointed out, bank deposits also made up an important part of the currency in use. Although the currency principle insured the ability of the Bank to redeem its notes in specie, it did not protect the Bank from difficulties arising from a withdrawal of deposits, and was no substitute for careful management of the whole credit operations of the Bank. It was necessary to suspend the Bank Act three times within 25 years in order to provide sufficient currency to meet panic conditions.⁶

⁵ Viner, *op. cit.*, pp. 220-221.

⁶ *Ibid.*, pp. 229-234.

Modern application of the "banking theory." The "banking theory" is essentially a qualitative standard, since it holds to the view that, when limited by the test of convertibility, the creation of bank credit (both notes and deposits) cannot fail to be correct if based upon loans made for strictly short-term and legitimate business purposes. Quite naturally, it was embraced by the anti-quantity theorists in their attacks upon the quantity theory. It will be recalled that one argument made in opposition to the quantity theory denies that bank credit, soundly created, can have any direct influence upon the price level. The reason given for this belief is that short-term commercial loans give rise to bank credit required by the change in business activity. If soundly made, therefore, self-liquidating commercial loans cannot result in price inflation, because their expansion is accompanied by an additional production of goods. When business is active and goods pass readily into consumers' hands and are paid for, there is no limit to the amount of credit that can be safely granted, except that set by the offerings of goods.⁷

One of the clearest examples of an attempt to apply the banking theory to credit control can be found in the credit policies of the Federal Reserve System. Originally it was thought that strict limitation upon the privilege of rediscounting, so that only self-liquidating paper might be purchased by the reserve banks, would automatically insure the proper use of Federal Reserve credit. Practical experience, however, soon led to a partial abandonment of this policy. The reserve banks began to buy government securities in the open market as a means of supplementing their scanty income from rediscounting. Later, after the entrance of the United States into the war in 1917, expediency led to the practice of lending freely to member banks on the security of government bonds and "war paper."⁸ The experiences of the war and early postwar years clearly indicated a need for some standard that would harmonize with the practices that had developed under the pressure of war necessity. This new statement of credit policy was made in 1923. It set forth that the test of the proper quantity of bank credit should be the

⁷ Willis, H. Parker, *The Theory and Practice of Central Banking*, New York, Harper & Bros., 1936, p. 303.

⁸ "War paper" consisted of customers' notes given to banks to obtain funds with which to purchase government bonds.

accommodation of commerce and industry. Credit should be freely granted so long as it was put to productive use. The criteria for determining whether or not bank credit was being put to productive use were:

1. Are goods moving smoothly from producers to consumers without speculative accumulations of inventories?
2. Is the volume of trade, production, and employment in equilibrium with the volume of consumption?

The weakness of the banking principle of credit control. A weakness in the application of the banking theory arises from the difficulty, if not the impossibility, of any individual banker's being able to draw the line on bank loans before they become inflationary.⁹ The banker should not be criticized for this. His is essentially a worm's eye view of the economic structure, and particularly is this true under the unit banking system. When business shows brisk improvement, borrowers' needs for "legitimate" loans expand. At the same time, loans appear to be more sound than ever, for improved profit prospects and rising prices constantly make for greater security for the lender. It is little wonder, therefore, that the banker sees a constantly expanding opportunity for the making of "sound commercial loans." Not until the evidence of disequilibrium becomes more obvious will the soundness of commercial loans be questioned. In the meantime, serious inflationary forces are unleashed. The situation is in no way remedied by the free rediscounting of self-liquidating commercial paper by the central bank.¹⁰

The possibility of successful avoidance of inflationary credit expansion is somewhat better where the central bank undertakes to determine whether or not credit is being put to proper productive and nonspeculative uses, for the central bank has the very material advantage of being able to view the credit situation as a whole. Yet here, too, a serious limitation arises in the difficulty of devising adequate standards for measuring the legitimate

⁹ For a clear exposition of how bank credit created on the basis of commercial loans may easily become inflationary, see D. H. Robertson's *Money*, New York, Harcourt, Brace & Co., 1929, Chapter IV.

¹⁰ Cf. Currie, Lauchlin, *The Supply and Control of Money in the United States*, Cambridge, Harvard University Press, 1934, Chapter IV; and Williams, J. H., "Monetary Stability and the Gold Standard," in *Gold and Monetary Stabilization*, Chicago, University of Chicago Press, 1932.

credit needs of the business community. Essentially it is the problem of avoiding financing an expansion in business activity and investment that cannot be maintained, that is, an inflationary movement. In 1923 the Federal Reserve Board believed that it had the proper formula for detecting unsound and inflationary uses of bank credit. Unfortunately this formula was based largely upon the experience of the postwar boom that terminated in 1920. This inflation, accompanied by sharply rising commodity prices, was characterized by speculative accumulations of inventories. This explains the preoccupation of the Board in 1923 with the question of whether or not goods were moving uninterruptedly from producer to consumer. The unfortunate result was that the Board was blinded to the inflationary and disturbing developments of 1923-1929, when, in the face of fairly stable prices, falling industrial costs led to high business profits and an excessive rate of capital expansion based upon expanding bank credit.

It is evident that attempts to formulate adequate standards of credit policy based upon qualitative considerations are beset with difficulties of great magnitude. This explains the interest in quantitative standards displayed by most present-day students of monetary problems.

QUANTITATIVE STANDARDS OF CONTROL

In spite of its seeming automatic character, qualitative credit policy is by no means easy to apply. This was made abundantly clear by the struggle of the old Federal Reserve Board to establish satisfactory criteria for applying qualitative standards during the 1920's. But even more are workable and proper criteria needed for the application of policy based upon *quantitative* principles.

Price level stabilization as a goal of credit and monetary policy. Before 1936, in what might be called the pre-Keynesian-stagnation era, the main purpose of advocates of quantitative credit and monetary policy was to combat cyclical fluctuations in business activity and employment. At that time unemployment was considered but an unfortunate and temporary deviation from the economic norm of full employment. The possibility of secular stagnation had not then reared its ugly head, at least not among the orthodox economic thinkers. Consequently, attention was naturally directed at curing or at least offsetting conditions that

seemed to contribute to economic instability. By remedying the more important causes of such instability, it was believed that the demon business cycle might well be cut down to tolerable size. Mild fluctuations were considered inevitable; it was hoped that the more violent might be avoided.

An obvious characteristic of the more violent cyclical fluctuations has been the movement or change in the price level. Such price movements, once under way, greatly accentuate the economic fluctuations they accompany. For example, rising prices that often accompany the upswing provide windfall gains to a widening section of the business community. Such profits stimulate investment incentives and provide the basis for further expansion. Likewise, on the downswing, falling prices are the source of losses that depress the investment incentive. Quite naturally, therefore, students in search of cures for the business cycle have turned to the price level as a basis for quantitative credit and monetary policy. Of course, it must then be assumed that adequate monetary and credit controls are available to control the price level.

One attractive feature of price stabilization as a basis of policy is the apparent ease with which it can be used. Statistics showing price changes are now promptly available in reasonably accurate form. The use of price level stabilization as a guide in the pursuit of a policy of economic stabilization has the additional merit of being easily comprehended and, possibly, easily accepted by the public as a desirable goal. Of even more importance, perhaps, is its definite, objective character. It fits well into the idea that what is highly necessary is an acceptable "rule" by which policy can be guided rather than submitting such policy to the determination by some "authority" exercising judgment.¹¹

Attractive as is price stabilization as a guide for a policy of economic stabilization it presents some rather obvious questions:

1. What price level should be selected for stabilization?
2. Is stabilization of prices at a given level a desirable thing? Or is a gradually rising or falling price level better?
3. Can any standard of price level control provide the stability and the high level employment so badly needed in the modern world?

¹¹ Cf. Henry Simons' earnest effort in behalf of this idea in his "Rules versus Authorities in Monetary Policy," *Journal of Political Economy*, February 1936.

The choice of price levels. It is well known that a substantial cyclical and secular divergence occurs among the several index numbers of prices. The index of wholesale prices responds more quickly to cyclical changes than do retail and cost of living index numbers. In turn, the price movements of certain "sensitive" commodities are much more rapid and violent than the price movements of wholesale commodities in general. Finally, an index of general prices, such as that constructed by Snyder, is the least responsive of all.

The choice of an index number to be used as a basis of stabilization efforts will depend largely upon what is considered the most urgent reason for attempting control. Thus, if the advocate of monetary stabilization is primarily concerned with the protection of the real wages of the consumer against price inflation, the consumers goods index would seem to be the most desirable. On the other hand, if cyclical fluctuations are to be measured and guarded against, a price index sensitive to such changes is needed.

The advantage that can be claimed for using the consumers goods index as a basis for stabilizing operations arises solely from the fact that a stable cost of living would insure the consumer against losses of real wages due to the lag of money wages behind price changes. Laudable as this motive undoubtedly is, it is overshadowed by the difficulties that would attend its use. First, to assemble an accurate and representative cost of living index for the average consumer presents a difficult statistical task. Second, stabilization of incomes and business activity is a much more significant goal of credit policy than stabilization of the cost of living. Cost of living indexes are too insensitive to short-run changes to be of much aid in anticipating cyclical movements. In contrast, wholesale prices do respond readily to cyclical changes. In any event, stabilization of wholesale prices would provide sufficient stability to retail prices to meet all practical requirements.

At first glance, one might conclude that a general index of prices, which reflects the changes in the purchasing power of money over everything that enters the market in exchange for money, ought to be a proper basis for credit policy. Such an index would include wholesale prices, wages, the cost of living, rents, transportation costs, real estate values, security prices, farm prices at the farm, and equipment and machinery prices, and

would give a cross-sectional view of the final results of the total monetary transactions. But a comprehensive index of this sort is of slight value as an indicator of short-run business developments.¹² The multiplicity of items largely conceals the actual movements of sensitive prices that are the significant indicators of cyclical change. Changes in the prices of securities and real estate, for example, are of little direct importance to the problem of cyclical stability. Rather, the basic problem of cyclical fluctuations deals with the changes of prices and costs of reproducible goods.

The wholesale price index. The wholesale price index as a criterion for stabilization operations has a number of distinct advantages:

1. It reflects promptly and clearly cyclical fluctuations in business activity.
2. It may be calculated quickly and on a sufficiently broad basis. This is essential to monetary control.
3. It reflects the movement of prices of internationally traded commodities. International co-operation for the purpose of stabilizing the world price level would require the use of indexes heavily weighted with international goods.

Wholesale prices, to be sure, do not furnish an infallible guide to either domestic or international stabilization. Stable wholesale prices are likely to be inflationary in a progressive economic society. As a guide to international efforts at stabilization, a wholesale price index such as that of the Bureau of Labor Statistics suffers from the weakness of including commodities that are purely domestic, and those commodities which do move in international trade are improperly weighted to provide a proper measure of the international price situation. Nevertheless, the wholesale price index more nearly covers the total range of commodities that are important in the profit calculations of businessmen than does any other index of prices yet available. For this reason, proposals for monetary stabilization commonly provide for the use of the index of wholesale prices as the basis or criterion for monetary control.¹³

¹² For a description of Snyder's revised index of general prices, see his "The Measure of the General Price Level," *Review of Economic Statistics*, February 1928.

¹³ Cf. Gayer, Arthur D., *Monetary Policy and Economic Stabilization*, New York, The Macmillan Co., 1935, Chapter XII; Hawtrey, R. G., *The Art of Central Banking*, New York, Longmans, Green & Co., 1932, Chapter V.

STABLE WHOLESALE PRICES AS THE GOAL OF CREDIT POLICY

The case for stable prices is a fairly clear one. In a world of rigid costs, it is important that fluctuations in the price level be avoided if stable business is to be achieved. For, if prices rise, windfall profits encourage a rate of expansion of capital investment that cannot be maintained and that leads to an inevitable reaction. Falling prices, on the other hand, lead to losses, a falling off in economic activity, and unemployment. Thus, in a search for the basis of economic stability, a stable price level seems to hold the most promise. Moreover, from the standpoint of debtors and creditors, stable prices seem to offer substantial justice.

Some objections to stable wholesale prices. Primarily, the objection to stable wholesale prices rests upon the important fact that modern economic society is dynamic in nature. In the past, rapid technical progress has resulted in a constant decline in the real costs of production. Since it is to be expected that technical progress is by no means ended, it must be taken into account in proposals for economic stabilization. But stable prices in the face of declining costs present difficulties. First, so far as debtors and creditors are concerned, stable prices would permit the debtors to appropriate the benefits of economic improvements at the expense of the creditors. To be sure, this may be of slight importance in view of the fact that creditors comprise the inactive side of the lending transaction. One may hold that the benefits of improvements should go to the debtors, since, being businessmen, they are more responsible for the introduction of the new techniques than are the creditors. A similar argument, based upon the equities of the situation, criticizes stable prices in the face of falling costs as tending to deprive wage earners of complete participation in the gains because of the lag in money wages.

Of still more significance, however, is the inflationary effect of stable prices in a period of rapidly falling costs. Money costs decline while efficiency is growing because of the well-recognized failure of the money rate of wages and interest to rise in proportion to the growth of efficiency. Stable prices in a period of falling money costs, therefore, tend to lead to excessive profits, which in turn lead to overexpansion and subsequent depression. The overexpansion and collapse that occurred in the United States during

the 1920's is commonly explained upon these grounds. Table 34 presents some evidence in support of this view.

TABLE 34
INDEXES OF PRICES, BUSINESS PROFITS, LABOR COSTS, AND OUTPUT
OF CAPITAL EQUIPMENT IN THE UNITED STATES, 1922-1929 *
(1923-25 = 100)

	<i>Wholesale Prices</i>	<i>Profits of 102 Corporations</i>	<i>Payrolls ÷ Production</i>	<i>Output of Capital Equipment</i>
1922	96.0	81	95.4	81
1923	99.9	90	101.7	102
1924	97.4	109	101.4	91
1925	102.7	101	97.1	107
1926	99.3	128	96.7	120
1927	94.7	152	96.1	116
1928	96.0	186	91.9	118
1929	94.6	232	90.7	138

* Barger, Harold, "The Banks and the Stock Market," *Journal of Political Economy*, December 1935, p. 772. Quoted by permission of the University of Chicago Press.

Stable prices and equality of savings and investment. Advocates of a stable price level sometimes have held that it would automatically avoid both forced saving and a wastage of voluntary saving by permitting and requiring that voluntary money savings equal investment. The banking system would merely operate to convert voluntary savings into real capital. But in an expanding economic society, this would not be true. The growth of production, because of both a larger population and greater efficiency, requires some expansion of the means of payment if stable prices are to be maintained.

The expansion in the volume of money sufficient to provide stable prices in a growing and improving economy would require, in the absence of government intervention, a rate of interest low enough to induce the rate of investment to rise somewhat above the rate of saving. This is necessary because an expansion of money under the conventional banking system occurs only when business finds it profitable to expand capital by borrowing at the banks. But this low interest rate may easily lead to an upswing of business that eventually must be reversed. The inflationary consequence of a low rate of interest, however, could be avoided by using government spending to inject the new purchasing power needed to maintain a stable price level.

Slowly rising prices. Impressed by the obvious fact that rising prices give encouragement to business, some have advocated a policy of gently rising prices as a cure for unemployment and depression. The windfall profits that would be relied upon to provide the stimulus to business activity depend, of course, upon the tendency of wages and other costs to lag behind the rising prices. Yet this need not be objectionable to the wage earner, for he would gain in fuller employment more than he would lose by a lagging wage rate. Such a policy could hardly be expected to provide the economic millennium, however, for it would almost certainly be accompanied by an overexpansion in investment and inflation that inevitably are followed by a collapse. Far from providing protection from business fluctuations and unemployment, a rising price policy would be certain to make matters worse.

THE CASE FOR A SLOWLY FALLING PRICE LEVEL; NEUTRAL MONEY

Because money costs of production are "sticky" and can be forced down only through depression, falling prices are quite generally viewed as the arch-enemy of economic stability and well-being. Nevertheless, some reasons can be given in favor of falling prices.

First, in contrast to rising prices, which reward the speculative businessman and shield the inefficient from the fruits of his errors, falling prices require high-grade managerial performance for business survival. From the standpoint of public welfare, this is a desirable result. Second, if prices do not fall so rapidly as to unduly depress business activity, the distribution of income is improved because of the increased share that tends to go to wage earners.¹⁴ Third, slowly falling prices provide an escape from the inflationary effect of stable prices in an advancing economic society.

To some writers, the ideal money is one that in no way introduces any monetary influences into the economic situation. In other words, money should exercise neither an inflationary nor a deflationary influence on business activity. Such a money would be "neutral." The achievement of this ideal would eliminate one important cause of business fluctuations and bring the goal of

¹⁴ Cf. Marshall, Alfred, *Official Papers*, London, Macmillan and Company, Ltd., 1926, p. 9.

economic stability that much nearer to attainment. This does not mean that a neutral money would entirely eliminate business fluctuations, for nonmonetary factors would remain.¹⁵

The requirements for a neutral money. What monetary system would satisfy the requirements of a neutral money? Advocates of stable prices generally regard their monetary policy as a correct one. They hold that stable prices will prevent monetary forces from operating to cause business fluctuations. But to the advocates of neutral money, this belief is erroneous, and when accepted dogmatically, lies "at the root of most of the shortcomings of present-day monetary theory" and is a bar to almost all further progress.¹⁶ Because economic fluctuations involve inequality of saving and investment, the true test of a neutral money is sometimes believed to be one under which saving and investment are equal. To equalize saving and investment requires the maintenance of the rate of interest at its natural or equilibrium point. Banks must lend neither more nor less than is deposited with them as savings and must not change the volume of currency and demand deposits. To permit banks to expand the volume of money would require an excess of investment over saving, with a resultant disturbance to equilibrium.¹⁷

But the idea that neutral money requires a fixed volume of money must not be taken too literally. There are circumstances that call for a *change* in the volume of money if the neutral money goal is to be achieved. For example, if the volume of money were fixed, a change in the structure of industry that reduced the money required in the industrial circulation would tend to be inflationary. On the other hand, a change that increased the money needed for industrial circulation would be deflationary, since money available for consumers' income would have to be reduced to provide the required increase in industrial cash balances.¹⁸ Therefore, any economic change that causes a change in the circuit velocity of money requires offsetting changes in the volume of money if it is to remain neutral. Improvements

¹⁵ For an examination of the question of whether or not neutral money would entirely eliminate cyclical fluctuations, see Harold Barger's "Neutral Money and the Trade Cycle," *Economica*, November 1935, pp. 436-440.

¹⁶ Hayek, F. A., *Prices and Production*, London, G. Routledge and Sons, Ltd., 1931, p. 25.

¹⁷ *Ibid.*, pp. 89-92.

¹⁸ On this point, see Hayek, *op. cit.*, pp. 101-106, and Durbin, *op. cit.*, pp. 120-128.

in industrial technique leading to greater productive efficiency tend to require an elaboration and lengthening of the productive process. To the extent that this increases the demand for money to handle the expanded industrial process, neutral money ought to expand also. Otherwise, the proportion of the total money supply that will flow into consumers' hands will be reduced and prices will have to fall *faster* than justified by the fall in costs.

Neutral money and a growing population. Still another troublesome question concerns the changes in output arising from the growth of population. Clearly, if the growth of population results in an expansion in total output, a fixed quantity of money would cause a deflationary and entirely unwarranted fall in the level of prices, one in no way related to a fall in real costs. The cash requirements for industrial circulation will be increased as the whole scale of output grows. At the same time, the number of persons requiring income cash balances will increase. A fixed supply of money under these circumstances must result in a fall in prices sufficient to enable the fixed quantity to care for the increased requirements.

Finally, the concept of neutral money necessarily involves the total amount of money payments made during a period of time, (that is, MV). The actual volume of money must, therefore, be adjusted to offset changes in velocity arising from hoarding and dishoarding of cash balances.

One may conclude that the ideal of neutral money is most nearly fulfilled by a monetary system in which the quantity of money is allowed to vary only to offset (1) changes in circuit velocity due to changes in the productive processes; (2) changes in the volume of production arising from a growth of population; and (3) changes in the velocity of money due to hoarding and dishoarding. Under such an arrangement, the result would be to stabilize per capita money incomes. This appears to be a more desirable theoretical goal than either a fixed supply of money or stable prices.

Deflationary effects of neutral money due to monopoly and unequal rates of economic improvements. Another criticism of neutral money is based upon the existence of monopolies and unequal rates of economic improvements within the industrial system. If the criterion used to regulate a neutral money system is a declining index of prices that corresponds to the average fall

in costs, there is danger that some industries would be unduly depressed. The large number of products that are sold in markets that are less than purely competitive would create a problem because of the tendency of prices of such goods to respond belatedly to a decline in cost. Therefore, any attempt to drive down the *average* level of prices by an amount corresponding to the average decline in costs must result in undue pressure upon the prices of the nonmonopolized products. Only in this manner could the price index be depressed by the amount required to correspond with the growth of productive efficiency. A similar result would occur if, as is almost certain to happen, technical efficiency increased at unequal rates in different industries. Here, again, the imposition of a falling price level, corresponding to the average fall in costs, would unduly depress prices in industries that have enjoyed a less than average growth in efficiency. At the same time, industries whose efficiency is growing at a rate above the average would be somewhat inflated.

The above criticism does not apply seriously, however, to a neutral money whose quantity is permitted to increase only by an amount needed to offset population and velocity changes. Because under such a criterion of neutral money the level of prices would be disregarded, no undue pressure need be felt by nonmonopolized prices or by prices of goods produced in industries having a less than average rate of growth in efficiency.

The criteria for administering a neutral money. Another serious objection to any practical application of the neutral money theory is found in the difficulty of setting up workable criteria for determining the proper quantity of money. One escape from this troublesome problem is the adoption of a fixed-quantity-of-money policy. But we have already seen that such a policy is certain to have undesirable deflationary effects. Clearly, there is no readily available measure of the rate of technical progress from which one might calculate the proper rate of decline of the price level required for a stable-income neutral money. Nor is there any easy way to determine the changes in the quantity of money that would be required to offset increases in population and changes in the monetary requirements of the industrial system arising from changes in productive technique. Even changes in velocity due to hoarding and dishoarding are difficult to measure promptly enough to furnish a guide to monetary policy. In

these respects, the policy of stable prices, in contrast to stable incomes, has distinct advantages.

THE RELATIVE MERITS OF STABLE PRICES AND NEUTRAL MONEY FALLING PRICES

The choice of monetary policy directed at establishing control *over the price level*, appears to lie between stable prices and neutral money of the sort that would provide stable per capita money income. The theoretical requirements for economic stability appear to be most nearly satisfied by neutral money. But as a practical matter it leaves much to be desired. In contrast, a stable price level policy has much to be said for it from a practical standpoint. In making a choice in such a matter, theoretical perfection must sometimes be sacrificed to practical considerations.

Practical objections to fixed per capita money incomes. We have already seen that neutral money in its most effective form would aim at the stabilization of money incomes. Such a system would surely meet with formidable objections in labor circles. It is difficult to persuade an individual of the advantages of receiving the benefits of industrial progress solely through the medium of lower prices. Labor, along with other recipients of money incomes, is much impressed with the importance of an expanding money income. It is not hard to see why this is so. The success of any individual or group of individuals in improving their relative position in the economic system normally requires some increase in money income. A monetary system that lessens the opportunity to strive for a higher money income is, therefore, certain to be viewed with suspicion if not with outright disfavor. A neutral money system would require that trade union pressure for higher wages be stoutly resisted, for increased money wages would have to represent only increases in the proportion of the total national income that labor receives. The serious preoccupation of labor with the size of its money income furnishes a strong practical reason for a preference for stable prices, with wages rising with technical advance, rather than neutral money with its stable money income requirements. In contrast, a stable price level not only permits a general rise in wages as efficiency of production is increased, but also it avoids the painful necessity of cutting piece rates with improvements in efficiency. Further-

more, stable prices with rising money wages avoids the need for absolute reductions in money wages of the less efficient workers.

SOME PROBLEMS OF PRICE LEVEL STABILIZATION

We have already noted the difficulty in establishing workable criteria for a neutral money system. In contrast, a strong reason for *stable* prices instead of the falling prices of neutral money is the relatively greater ease of setting up a criterion for establishing a stable price level. All in all, when it comes to an actual choice of policy, the preference would seem to be with stable prices in spite of limitations.

The avoidance of inflation under stable prices. In spite of its shortcomings, a stable price policy would be no little improvement over highly unstable prices, for any resulting reduction in the amplitude of business fluctuations would be a substantial economic gain. The value of stable prices would be still further enhanced in case their inflationary tendencies in an advancing economic society could be avoided. What, we may ask, are the possibilities in this direction?

Because the inflationary effect of stable prices arises from the lag in the rewards of factors of production in the face of increasing productive efficiency, an obvious cure would involve an appropriate increase in such rewards. The action of trade unions might be utilized to bring about rising wages. Unionization could be encouraged. But such a method of insuring against the appearance of windfall profits would be unreliable and unsatisfactory. As an alternative, some automatic increase in wage levels might be provided for as the average efficiency increased. There seems to be no very good way to provide increased incomes for creditors and other recipients of fixed incomes. Any plan to increase wages and other money incomes involves the dual difficulties of measuring the rate of increase in efficiency and avoiding undue deflationary pressure upon business firms not enjoying an improvement in efficiency.

The short-period aspect of price stabilization. In entering upon any general program of price stabilization, there arises the problem of the manner in which the monetary authorities are to exercise their powers. For example, shall they maintain a somewhat loose type of control aimed at preventing the development of any dangerous cyclical price movements while allowing some

short-run flexibility in the price level, or should they strive to impose a tight form of supervision with the aim of preserving, so far as possible, an absolutely stable level of short-run prices?

Practical attempts at price stabilization must involve the use of some selected index of prices. When this index shows signs of fluctuation, the monetary authority must take proper counteracting measures. But attempts to counteract every short-time change in the price level would be certain to prove both difficult and undesirable. In the first place, because of the inaccuracy of index numbers, it would be inappropriate to put the monetary controls into operation merely because of a small movement of the price index. Not until the movement reached some significant proportions should counteracting monetary operations be introduced. Nor are the instruments of control available to the monetary authority sufficiently precise to justify attempts to correct small price movements. Any price stabilization plan, therefore, seems to call for a margin of tolerance within which movements of the selected price index might be viewed with equanimity.

Furthermore, circumstances may easily arise that would make the rigid imposition of a stable price index a highly undesirable short-run policy. This may be illustrated by assuming that unfavorable grain weather has resulted in a short crop. The price of grain will rise, and with it the index of prices. If corrective action were to be taken to prevent or check such an increase in the price index, it would involve the deflation of other prices. Clearly, such action would be an outright injury to business stability, for it would impose a general business deflation upon the community in order that the precious stability of the price index might be preserved. Similarly, a bountiful crop would lead to lower grain prices and a fall in the price index. To introduce inflationary measures designed to raise other prices sufficiently to bring the average back up to the level agreed upon would also be highly undesirable. For this reason, it is important that price movements originating in such accidental and short-run occurrences be disregarded by a monetary authority bent upon price stabilization.¹⁹

¹⁹ Cf. Mahr, Alexander, *Monetary Stability*, Chicago, University of Chicago Press, 1933 (Public Policy Pamphlet No. 9), pp. 9-12. Also see Gayer, *op. cit.*, pp. 243-245.

Because of the need for a margin of tolerance in connection with price stabilization, it becomes all the more necessary that some effective means be available to the monetary authority by which it may judge the nature of economic developments. It must be in a position to judge, for example, whether or not a particular movement in the price index is due to an underlying inflationary or deflationary development. Promptness of action is essential, but it must be based upon sound knowledge. If neither a strictly fixed supply of money nor a strictly stable price level is desirable, there immediately arises the need for full knowledge of underlying conditions upon which judgments may be used. In such a case, a price index alone is no substitute for broad knowledge.

FULL EMPLOYMENT AS A CRITERION FOR MONETARY AND CREDIT POLICY

When John Maynard Keynes, in 1936, demonstrated the theoretical and practical possibility of an equilibrium at less than full employment,²⁰ he substantially modified the significance of earlier criteria of proper monetary and credit policy. No longer could one assume that reducing the violence of cyclical fluctuations in business would provide a certain and satisfactory answer to the problem of unemployment. For, according to Keynes, it is possible and perhaps even probable that secular stagnation may exist in a society devoid of cyclical fluctuations. Indeed, once one admits the possibility that the rate of saving at full employment may remain chronically above the rate of investment at acceptable rates of interest, the possibility of secular stagnation becomes a real threat. Consequently, a mere stabilization of the price level alone can no longer be accepted as an adequate goal of monetary and credit policy. Instead, *economic stability at full employment* becomes the proper goal.²¹

The meaning of full employment. Full employment does not require that every employable person be working the maximum

²⁰ *The General Theory of Employment, Interest and Money.*

²¹ We need not examine here the pros and cons of the theory of economic maturity and secular stagnation. For a competent analysis of the concept see Benjamin Higgins' "Concepts and Criteria of Secular Stagnation" in *Income, Employment, and Public Policy*, Essays in Honor of Alvin H. Hansen, New York, W. W. Norton and Co., 1948. For a criticism of the concept, see George Terborgh's *The Bogy of Economic Maturity*, Chicago, Machinery and Allied Products Institute, 1945.

possible number of hours per week. Rather, it requires only that the *normal* working force be employed for the customary hours per week. Persons past retirement age and young people still in school need not be drawn into the active labor force to satisfy the test of full employment. Moreover, full employment does not require the elimination of usual and normal seasonal unemployment or the so-called *frictional* unemployment arising out of labor turnover and shifts from one area to another and from one industry to another. It follows, of course, that the inclusion of full employment among the criteria for monetary and credit policy requires setting up a competent unemployment index for guidance.

Instruments of control. In general, the same monetary and credit controls appropriate for attempting to reach economic stability through price stabilization are likewise suitable for promoting stabilization at full employment. A fall in employment below the desired level, whether because of cyclical or other reasons, can be counteracted first with the usual easy-money policies of the central bank. Should the slackening of employment be mild, such steps may be sufficient to reverse the downward trend. Particularly will this be true if the economy finds itself in the midst of a period of long-run expansion in which there is little threat of secular stagnation. But if the drop in employment proves severe, prompt fiscal policies should be brought into action. Taxes should be reduced, government spending on construction should be expanded, and other appropriate actions taken.

On the other hand, a threat of inflation can likewise be promptly and effectively dealt with by proper restrictive action by the central bank. Tighter money conditions can be enforced by open-market sales of securities, higher rediscount rates, and increased reserve requirements. At the same time, selective credit controls may also be utilized to restrain expansion. The promptness with which central banks can act makes their part highly important in combating inflation. It is imperative, therefore, that the Federal Reserve System's control over the money market be restored and its subservience to the problem of the management of the Governmental debt be reduced. A serious inflationary threat, however, may require that central bank credit policy be supported by proper fiscal policy. Higher taxes, reduced spending, budgetary

surpluses, and debt retirement may and should be utilized to supplement central bank anti-inflationary policy.

One of the prerequisites to successful anti-inflationary action is to establish reliable criteria for determining the timing and strength of measures to be taken. Furthermore, there is need for a wider public acceptance of the idea that threatened inflation should be promptly dealt with if a program of economic stabilization is to be effectively established. Such public acceptance of prompt anti-inflationary steps will depend somewhat on confidence that deflation, in turn, can and will be effectively dealt with.

The threat of inflation. Attempts to achieve and maintain full employment run the danger of developing into inflation. This danger of inflation constitutes a threat to stability because of the well-known self-reversing tendencies of inflationary booms. One may properly ask, therefore, why full employment programs contain a threat of inflation, and to what extent can the threat be avoided.

As the economy is pushed toward full employment, unequal pressure develops upon different parts of the economic structure. During periods of slack, some industries curtail their output while maintaining prices. Others, such as agriculture, maintain output but suffer from falling prices. A recovery and a rising income level tends to drive up the prices of commodities whose output cannot readily expand. In other words, cyclical bottlenecks, where supply cannot readily be increased, begin to appear and prices begin to rise. Clearly such price increases must be permitted if expansion and recovery are to continue into full employment.

A second inflationary force is found in the rise in labor costs that accompanies an expansion of output and employment. Less efficient members of the labor force will be attracted in, and old employees may slacken their efforts somewhat as unemployment declines and jobs become easier to hold. Furthermore, at such times union demands for higher money wages become more insistent. Such demands are fortified by the obvious rise in the cost of living, which responds to the increase in price of commodities having an inelastic supply. Thus there is a danger that an inflationary spiral based on wage increases may develop. When such increases in wages exceed the rate of improvement in

labor efficiency, as they are likely to do at such times, the inflationary effects will be felt throughout the industries granting them.

Yet another inflationary tendency arises from the "acceleration" principle. To provide full employment and output, appropriate expansion in productive capacity may be required. This creates a new, added demand (above the ordinary replacement requirements) for equipment and construction. This tends to stimulate output and inflate prices in the industries that produce capital goods.

Needless to say, the inflationary pressures just described create an unstable situation that makes difficult the maintenance of full employment conditions. The instability generated by inflation tends strongly, sooner or later, to lead to reaction and depression. Avoidance of inflation, therefore, becomes an important problem in any full employment program.

Avoidance of inflation under full employment. In a dynamic and expanding economy it is unlikely that stability and full employment can ever be fully achieved. But it is within reason to hope that within the range of mild fluctuations *substantial* achievement of a full employment goal can be realized.

Quite apart from monetary and fiscal measures, one contribution to stability may appear in the probable efforts on the part of the Government to support agricultural prices during business recessions. Such efforts, if successful, will not only simplify the problem of cyclical price stability but will also help to hold in check inflationary demands for wage increases based upon rising living costs in subsequent expansion periods.

Professor Hansen suggests that the existence of bottlenecks in production capacity may not be so troublesome as is sometimes believed. He believes that in most industries, plant and equipment are generally adequate to meet the needs of full employment. Moreover, the war experiences indicate that in the major industries unit production costs, in terms of labor efficiency, need not rise as full employment is approached. Furthermore, under a continuing full employment economy, many of the bottlenecks that arise when business is alternately depressed and prosperous will tend to disappear. Capacity needed for full employment will tend to be adequately developed and maintained. Finally, he believes that inflationary pressures from wage demands are not

inevitable. Comprehensive and adequate statistical measures of prices, wages, and productivity, all properly publicized and utilized, combined with effective machinery for arbitration and mediation, might go far in avoiding excessive and inflationary wage increases.²²

Full employment and external disequilibrium. The experience of England after the war suggests yet another problem that can arise in the pursuit of full employment policy. As full employment is approached, the resulting higher level of consumer income tends to absorb into domestic consumption a growing fraction of the national output. This condition is brought about by a relative increase in domestic prices in comparison with prices in export markets. In addition, import demand rises with increases in industrial output and consumer income. The end result may very well be that successful efforts to promote full employment will cause a severe disequilibrium in a country's balance of payments. The consequent drain upon foreign exchange reserves creates a serious problem. Either currency devaluation may be required to correct overvaluation and induce the necessary rearrangement of industry, or the greater efficiencies and smaller money incomes associated with a somewhat lower level of employment must somehow be brought about. In such a case, the goal of full employment must be subordinated to the more urgent goal of equilibrium in the balance of payments. Fiscal and credit policy must then be used to restrict credit and business, even at the expense of employment, if no other way can be found to restore equilibrium. The hope that full employment may be pursued without concern about the effect on the balance of payments explains the enthusiasm in some quarters for the retention of exchange controls.

Questions for Study

1. What are *qualitative* standards of credit policy?
2. Why did the Bank of England managers believe that over-expansion of notes could have nothing to do with the decline in the foreign exchange of the pound?
3. What is the *banking theory* of bank credit? Contrast it with the *currency school* of thought.

²² Hansen, Alvin H., *Economic Policy and Full Employment*, 1947, Chapter XX.

4. Before 1935, Federal Reserve credit policy was based mainly upon the *banking theory* of credit. What evidence of this can you point to?
5. Why does the banking theory give inadequate protection against credit inflation?
6. The application of quantitative standards of credit control require appropriate criteria. What are the two major criteria that have generally been advanced?
7. Why has price level stabilization so commonly been advanced as a goal for credit policy? To what extent might successful stabilization of the price level contribute to the prevention of unemployment?
8. What price index do you think should be chosen for stabilization? Why?
9. Examine Table 34. What does it reveal about the inflationary possibilities of stable wholesale prices in a period of rapid technological improvements?
10. What is meant by *neutral money*? Why would a fixed supply of money not be neutral? What would be the behavior of prices under such a money system?
11. What practical advantages would stable wholesale prices have over neutral money?
12. How can the inflationary consequences of stable prices and improving technology be avoided?
13. Why has present-day interest switched largely from a goal of stable prices to one of full employment?
14. Why does a full employment policy carry with it a threat of continuous inflation?
15. What conflict may arise between a full employment policy and the problem of an equilibrium in the balance of payments?

Part X

Banking Efficiency and Structural Change

Bank Failures and Insurance of Deposits

BANK FAILURES

Nature of bank failures. When a bank's "net sound capital" (total assets minus its liabilities to creditors) becomes less than the par value of its outstanding shares, its capital is "impaired." To ward off later disaster to the creditors the supervisory authority will require an assessment against the stockholders to make up the impairment. But when the value of its assets falls below the amount of the bank's liabilities, the bank is insolvent. Under these conditions, the bank may be closed to protect the interests of the depositors and therefore it is said to have failed.

Not all banks that fail, however, are necessarily insolvent in the long-run sense. Often, when confidence in banks has been shattered by numerous failures, basically sound banks become victims of depositors' runs and are compelled to close because of their inability to convert sound assets into cash in time to survive.

Importance of bank failures. Throughout its history American banking has been plagued by failures. Each period of severe depression has taken its toll among banks. Even good times are not entirely free from bank failures although the experience of good times is quite naturally much more favorable than that of depression years. The magnitude of the problem of bank failures may be appreciated by reviewing the failure experience of American banks in the interwar period of the 1920's and 1930's.

An unprecedented number of bank failures occurred in the United States during the period from 1921 to 1933. The agricultural depression, which began with the general business collapse of 1920 to 1921, continued with varying degrees of intensity down to 1929 and took a heavy toll in bank failures in agricul-

tural areas. During the years 1921 to 1929, over 5,600 banks failed with deposits of more than \$1,700,000,000. The prolonged and acute depression that began late in 1929 brought a still greater flood of failures, this time in the industrial centers as well as in the agricultural districts. Between January 1, 1930, and March 15, 1933, 5,492 banks suspended with deposits of \$3,500,000,000. By the end of March 1933, 5,200 banks, operating before the crisis, with deposits of over \$4,000,000,000, had not been licensed to reopen. This meant suspension of over 16,000 banks with deposits of over \$9,000,000,000 between 1921 and the end of March 1933, not counting temporary suspensions arising directly from the bank holidays.

The bank failure situation became serious in 1930 when 1,345 banks with deposits of \$864,000,000 suspended. Conditions became rapidly worse in 1931, with 2,298 failures involving \$1,691,000,000 in deposits. The banks themselves attempted to meet the difficulties by setting up, in October 1931, the National Credit Corporation, authorized to issue up to \$1,000,000,000 in debentures, which were to be sold to banks. The proceeds were to be lent to hard-pressed banks attempting to liquidate their assets in the face of runs started by such wholesale failures. It was hoped that this procedure would stem the tide for the solvent banks. The National Credit Corporation proved ineffective, however, although the number of failures declined from 522 in October to 175 in November, 1931.

On January 22, 1932, Congress passed an act authorizing the organization of the Reconstruction Finance Corporation, a government corporation with power to issue debentures, which were sold to the Treasury, and to lend funds to distressed financial institutions, railroads, and farmers. Between February 29, 1932, when it started operations, and December 31 of that year, the RFC advanced \$4,450,000,000 to banks and trust companies. Failures declined to 121 in February and to 46 in March. Although rising to 131 in June, they declined to 67 in September. In spite of aid granted by the RFC, 242 banks failed in January and 154 in February 1933. Weak spots in the banking system were developing rapidly as banks were subjected to increased pressure from depositors. The attempts of banks to reduce loans and to get cash put more pressure on prices and business as goods were liquidated to pay loans. The selling of securities demoral-

ized the bond market and increased the difficulties of the banks.

The banking holiday. The situation of the banks in Michigan became so hazardous that a holiday was declared by the governor on February 14. The closing of the Michigan banks put heavy pressure upon the banks in the surrounding territory as corporations and others sought to obtain funds by withdrawing deposits in unrestricted banks. Indiana declared a holiday on February 23, closely followed by Maryland, Arkansas, and Ohio. The holidays spread until all banking operations were virtually suspended throughout the country by March 4.¹ On Monday, March 6, 1933, the President closed all the banks by proclamation under the powers of a wartime act of October 6, 1917, which authorized the President to regulate transactions in foreign exchange and the export or hoarding of gold or silver coin or bullion.

The presidential proclamation declaring a general bank holiday became necessary in order to put a stop to bank runs and the accompanying hoarding of cash. Only by a complete suspension could the banking situation be put into shape so that public confidence might be re-established. The holiday caused an almost complete suspension of business activity as the means of payment were shut off. The proclamation originally fixed March 9 as the last day of the holiday, but the time was afterward extended. Not only was the holiday necessary if order was to be restored for member and nonmember banks, but it also served the very useful purpose of relieving a rapidly growing strain on the reserve banks. Member banks increased their rediscounts during the latter part of February and the first week in March by \$1,170,000,000, and the reserve banks bought \$460,000,000 in bills and securities in the open market. Between February 1 and March 4, \$305,000,000 in gold was exported, and gold in circulation (hoarded) increased \$150,000,000 during the same period. As a result, the reserves of the reserve banks in excess of the statutory requirement declined from \$1,476,000,000 to \$416,000,000, and the average reserve ratio for the twelve banks fell from 65.6 per cent to 45.3 per cent.

On March 9, 1933, Congress enacted the Emergency Banking Act. This Act authorized the President, during a period of na-

¹ "Federal Reserve Bank of New York," *Monthly Review*, April 1933.

tional emergency, to regulate foreign exchange dealings and to prohibit the hoarding or export of gold, silver, or currency. It established a procedure for handling the affairs of distressed national banks, and authorized the purchase of preferred stock in banks by the Reconstruction Finance Corporation. It also authorized the issue of Federal Reserve Bank notes as emergency currency and authorized member banks to borrow at the reserve banks on assets not eligible for rediscount or for use in borrowing under ordinary rules. Nonmember banks were given a similar privilege for one year by an act passed March 24 of that year.

The reopening of the banks. On March 10 the President issued an executive order authorizing the Secretary of the Treasury to approve the issuance of licenses to member banks making application to the reserve banks. It further authorized state authorities to permit the reopening of nonmember banks. On March 13, 14, and 15 the Secretary of the Treasury gave licenses to reopen member banks certified as sound by the Comptroller. State authorities did likewise. Banks certified as sound seem to have been those in possession of sufficient assets to enable them to obtain loans at the reserve banks to pay off all depositors if necessary. The Secretary of the Treasury issued a statement in respect to the new banking act to the effect that: "This legislation makes possible the opening of banks upon a sound basis, backed by an adequate supply of currency. Through this law the banks which will open will be placed in a position to meet all demands." The restoration of a genuine stockholders' equity in the reopened banks was postponed until a later date. By March 29, 12,800 out of 18,000 banks operating before the holiday had reopened. This number included member banks carrying approximately 90 per cent of the total member bank deposits. Reopened banks were not permitted to pay out gold or gold certificates, nor were they allowed to pay out currency for hoarding. Immediately a rapid return flow of currency to the banks set in which amounted to \$1,185,000,000 by March 29. Public confidence was restored and the emergency was past.

CAUSES OF BANK FAILURES

The seriousness of American bank failures has stimulated much interest in possible remedies. Such remedies must necessarily be developed in the light of basic causes of failure. In Table 35

some of the more general causes of failure among national banks can be seen.²

After 1872 it appears that the most frequently occurring causes of failure during periods free from acute or prolonged depression are wholly or partially found in dishonest and illegal banking practices (Group 2). During periods of serious depression such causes become relatively less important. The unusually low figures for the causes appearing in Group 2 after 1923 are partially due to a change in classification which excludes violation of banking laws. The importance of fraud and violation of banking laws as causes of bank failure is especially pronounced between 1900 and 1920. It is quite natural to find depression in business, and depreciation of assets for reasons other than fraud and violation of banking laws, relatively unimportant during years of prosperity.

If one combines poor management with fraud and violation of banking laws into one general class of "internal causes" and contrasts the magnitude of the internal causes of failure with that of the "external causes," consisting of depreciation of assets and depression, it becomes clear that the internal causes are the predominant ones in all save the depression periods. One may conclude, therefore, that a prevention of the operation of these internal causes, consisting of incompetent management, fraud, and violation of established banking law, would go far in abolishing bank failure even in bad times.

On the other hand, during the periods of the greatest number of failures—namely, periods of acute or prolonged depression—external causes become relatively important. This was particularly true of the failures in the area west of the Mississippi River. There much distress was caused, between 1923 and 1929, by the extended depression in agriculture following the era of land speculation. Corrective measures, both legislative and administrative, necessitate a discovery of the underlying causes for fraudulent, weak, and inefficient management and for the susceptibility of banks to severe depression.

Relation of size to failure. An examination of Table 36 shows that on an average in the whole country, banks of larger size

² The following discussion and tables are to a large extent taken from an article by the writer in the *Journal of Business*, July 1935, on "Bank Failures, Causes and Remedies."

fared better than the smaller ones, not only before 1930 when the depression was mainly confined to agriculture but during the 1930 to 1933 period as well. This fact has caused many to conclude that an important cause of failure is found in the smallness of banks.

TABLE 35

CAUSES OF FAILURE OF NATIONAL BANKS †

Ratio of Number of Occurrences of Each Cause to the Total Occurrences of All Causes (in Approximate Percentages)

<i>Years</i>	<i>Poor Management (1)</i>	<i>Fraud and Violation of Law (2)</i>	<i>All Internal Causes (1) and (2)</i>	<i>Depression and Depreciation of Assets</i>
1865-1872	47%	32%	79%	20%
1873-1879*	26	23	49	50
1880-1889	21	41	62	37
1890-1900*	31	29	60	38
1901-1905	21	48	69	30
1906-1908	25	48	73	26
1909-1913	20	55	75	25
1914-1920	25	63	88	12
1921-1922*	23	18	41	58
1923-1929: ‡				
West of Mississippi River*	31	9	40	60
East of Mississippi River, mainly in agricultural South ..	32	26	58	41
1930-1931*	51	1	52	47

† Computed from data given in the *Annual Reports of the Comptroller of the Currency*. The data apply to all national banks placed in the hands of a receiver.

* The starred periods contain years of severe depression. These periods show a sharp decline in fraud and illegal practices as causes of failure.

‡ Beginning 1925, the comptroller's reports classify causes of failure only as: (1) incompetent management, (2) fraud, and (3) depression. This results in a reduction of the size of Group 2 by putting violation of banking laws, excessive loans, etc., into the category of poor management.

The rates of failure for banks of different sizes, however, are somewhat distorted by the fact that after 1929 the agricultural areas, which contained over two-thirds of the banks with capital of less than \$200,000, were subjected to continued severe depression, more acute, in fact, than that suffered in the larger cities. A more accurate picture of the relation of size to failure may be

TABLE 36

NATIONAL BANK FAILURES CLASSIFIED ACCORDING TO CAPITAL STOCK

	1925 to 1929	Jan. 1, 1930 to Oct. 31, 1933
<i>Capital of less than \$200,000:</i>		
Total number of banks	6,491	5,414
Number of failures	424	985
Rate of failure (by per cent)	6.6%	18.2%
<i>Capital of \$200,000 to \$999,000:</i>		
Total number of banks	1,155	1,081
Number of failures	29	171
Rate of failure (by per cent)	2.5%	15.8%
<i>Capital of \$1,000,000 and over:</i>		
Total number of banks	234	213
Number of failures	1	21
Rate of failure (by per cent) .....	.42%	10.0%

had by computing the failure rate of banks of different sizes for each general geographical area. The results of such a computation for the period 1930 to 1933 are given in Table 37.

The rates of failure shown in Table 37 exhibit remarkable variety. Among the national banks of New England, the failure rate grows steadily worse as banks grow in size. Among banks of the East, those in the group next to the smallest in size fared the best. Otherwise, there is little difference. In the Pacific area the second from the largest group shows no failures, and the other three groups show little difference. The three great agricultural areas, the South, the Middle West, and the West, show a marked difference between the failure rates for banks with a capital of \$1,000,000 and over and for the smaller banks. Here is the reason for the favorable showing of the group of largest banks in the country-wide averages of Table 36.

The banks with capital of over \$1,000,000 in the three agricultural areas consisted of the larger banks of the largest cities of those areas. Although dependent for their prosperity upon trade with the surrounding agricultural regions, these centers were essentially industrial and commercial in nature. The type of banking business available to such banks was not unlike that of the banks of similar size in the more highly industrialized areas. In fact, the failure rate for these banks in the South and Middle West is approximately the same as that for New England and the

TABLE 37
FAILURES OF NATIONAL BANKS IN DIFFERENT AREAS CLASSIFIED ACCORDING TO CAPITAL STOCK, 1930-1933

	NEW ENGLAND			EAST			SOUTH			MIDDLE WEST			WEST			PACIFIC		
	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)	Total Number of Banks *	Number of Failures	Rate of Failure (By Per Cents)
Capitalization Group																		
Less than \$200,000.	242.5	5	2.1	1,287.0	157	12.2	1,158.0	230	19.9	1,402.0	378	27.0	969.0	170	17.5	350.7	56	16.0
\$200,000 to \$499,000	79.7	3	3.8	290.0	20	6.9	154.0	38	24.7	201.5	58	28.8	63.7	4	6.3	50.7	8	15.8
\$500,000 to \$999,000	23.0	1	4.3	79.0	9	11.4	44.7	16	35.8	63.2	15	23.7	9.5	1	10.5	20.5	0	0.0
\$1,000,000 and over	18.5	2	10.8	55.5	6	10.8	54.5	5	9.2	43.2	5	11.6	14.2	0	0.0	18.2	3	16.5

* Total number of banks is the average of the number operating at the beginning of each year 1930-1933.

East. The excellent record of the large banks in the West is the only exception. One is forced to the conclusion that among the national banks, size has been a relatively unimportant factor in relation to the rate of failure. Even where the largest banks show some superiority, that superiority is due to the fact that they are being compared with small banks which were more exposed to the blows of depression. It is interesting to note that in a number of instances the larger banks show a distinctly less favorable failure rate than the smaller.

TABLE 38
INDIANA BANK FAILURES, 1925-1931 *
(Classified by Size of Capital Stock)

<i>Capital Stock</i>	<i>Failures in Each Group (In Percentage of Average Number of Active Banks in Each Group)</i>
\$ 10,000-\$ 19,999	19%
20,000- 29,999	26
30,000- 39,999	18
40,000- 49,999	22
50,000- 59,999	30
60,000- 69,999	33
70,000- 79,999	33
80,000- 89,999	50
90,000- 99,999	0
100,000- 199,999	18
200,000- 299,999	15
300,000- 399,999	28
400,000- 499,999	18
500,000 and over	12
Average for all groups	24

* *Report of Study Commission for Indiana Financial Institutions*, 1932, p. 56.

Additional evidence bearing on the relation of size to rate of failure is given in Table 38. Among Indiana banks with a capitalization of less than \$100,000, the smaller banks were frequently superior to the larger.

Failure rate of national banks and others. The failure experience of national banks has been much less serious than that of the state and private banks. Likewise, Federal Reserve member banks have made a better showing than the nonmember banks. The superiority of member banks over nonmembers can be ascribed to the character of the banks which are members rather than to the fact of membership itself. This is indicated by the

fact that the bulk of the Federal Reserve membership is made up of national banks and the state banks located in the larger financial centers, both of which have relatively low failure rates. The suspension rates of the different types of banks during the period 1926 to 1932 are presented in Table 39.

TABLE 39
SUSPENSION RATE OF DIFFERENT CLASSES OF BANKS EXPRESSED IN
PERCENTAGE OF FAILURES TO TOTAL BANKS IN EACH CLASS *

(As of December 31 of the Preceding Year)

<i>Year</i>	<i>National</i>	<i>State and Private</i>	<i>State Member</i>	<i>All Members</i>	<i>Nonmember</i>
1926	1.5%	4.1%	2.4%	1.6%	4.2%
1927	1.1	2.9	2.4	1.3	2.9
1928	0.7	2.3	1.2	0.8	2.4
1929	0.8	3.2	1.4	0.9	3.3
1930	2.1	6.8	2.3	2.1	7.1
1931	5.8	12.0	10.6	6.4	12.1
1932	4.3	8.6	6.2	4.5	8.6

* Compiled from data appearing in the *Federal Reserve Bulletin*, for the years 1930-1933.

To eliminate the possibility of distortion of the failure rate because of the nature of the geographical distribution of the different types of banks, a comparison is made, in Table 40, for each geographical area. In each of the geographical areas, the failure experience of the national banks was better than that of the state banks. In many instances it was distinctly better. Although in all areas the failure rates of state banks were worse than those of the national banks, they were especially unfavorable in New England, the West, and the Pacific areas.

The state bank record may be attributed to two main causes. First, state bank charters have been too easily obtained by irresponsible and inexperienced individuals. Furthermore, they have been issued with little regard to the actual banking needs of the community to be served. For example, in numerous instances Indiana villages of less than five hundred inhabitants boasted of two or more banks.³ The second cause is lax supervision of banks, evident in many states, because of inadequate banking laws and underpaid, overworked, and inefficient examiners.

³ *Report of the Study Commission for Indiana Financial Institutions*, 1932, p. 88.

TABLE 40

COMPARISON OF FAILURES OF NATIONAL BANKS WITH OTHER BANKS BY GEOGRAPHICAL DIVISIONS, JUNE, 1929-MARCH 15, 1933
(Total Number of Banks Is the Average of the Number at the Beginning of Each Yearly Period Starting June 30)

Type of Bank	NEW ENGLAND			EAST			SOUTH			MIDDLE WEST			WEST			PACIFIC		
	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)	Average Number of Banks	Number of Failures	Rate of Failure (By Per Cents)
National banks . . .	369	9	2.4	1,751	127	7.2	1,472	238	16.2	1,787	287	16.0	1,091	119	10.9	459	53	11.5
Other banks	693	47	6.8	1,647	230	13.9	3,679	1,136	30.8	6,415	1,924	30.0	2,457	727	29.6	774	184	23.7

The record of state and national bank failures shows a crying need for a unified banking system operating under Federal control. This would facilitate the prevention of overbanking resulting from lax and competitive chartering while bringing uniformity of regulation and control. The present makeshift arrangement arising from the Federal Deposit Insurance Corporation activities cannot go to the root of the problem.

Overbanking as a cause of failure. The competitive chartering of new banks by state and national banking authorities, which often appeared before 1930, without doubt contributed somewhat to the vulnerability of the American banking system. Such competitive chartering not only made it easy for well-meaning but ineffective bankers to become established but also, in many cases, explains the overbanked condition of some states.

The dangers of overbanking are emphasized by the data that appear in Table 41. A comparison of the ten states having the highest suspension rates with the ten having the lowest supports the view that overbanking may be a powerful cause of failures. The significance of the data, however, is impaired somewhat by the fact that the states with the highest failure rates are also primarily agricultural and as such suffered from the severe agricultural depression. The ten best states, on the other hand, were mainly industrialized and were not so completely dependent upon agriculture as were the other ten.

Branch banking. It would be desirable to compare the failure experience of branch banks with that of unit banks operating under similar conditions. Unfortunately, adequate data seem not to be available. On December 31, 1929, however, there were 822 branch banking systems with 3,547 branches reported as operating in the United States.⁴ During 1930 and 1931, 134 branch systems with 388 branches failed.⁵ Altogether, then, 134 branch systems out of a total of 822 operating at the beginning of the period failed during these two years, with a failure rate of 16.3 per cent. Putting it in another way, 522 out of a total of 4,369 banking offices operating under branch systems failed with a fail-

⁴ "Branch, Chain, and Group Banking," *Hearings of the Committee on Banking and Currency*, House of Representatives, p. 459.

⁵ Willis, H. Parker, and Chapman, John M., *The Banking Situation*, New York, Columbia University Press, p. 310, quoting from the unpublished report of the Federal Reserve Committee on branch, group, and chain banking.

ure rate of 11.9 per cent. This may be compared with the failure rate for all national banks for the two years of 7.9 per cent, and for all state and private banks of 18.8 per cent. This scanty evidence leads one to suspect that branch banking as practiced in the United States is on the average inferior to the unit national

TABLE 41

PERCENTAGE CHANGE IN THE NUMBER OF BANKS FROM 1900 TO 1920, POPULATION PER BANK IN 1920, AND SUSPENSION RATE, 1921-1936, IN THE TEN STATES HAVING THE HIGHEST AND THE TEN STATES HAVING THE LOWEST SUSPENSION RATES *

<i>States</i>	<i>% Change in Number of Banks Between 1900 and 1920</i>	<i>Population per Bank, 1920</i>	<i>Suspension Rate, 1921-1936, per 100 Banks in Operation June 30, 1920</i>
<i>10 states with the highest suspension rates:</i>			
Florida	+403.8	3,725	112.8
South Dakota	+266.5	917	83.1
Arkansas	+667.2	3,605	76.3
South Carolina	+477.5	3,709	74.4
Michigan	+ 64.0	4,236	74.4
Iowa	+ 67.4	1,242	72.3
Nevada	+371.4	2,346	69.7
North Dakota	+464.8	720	68.0
Nebraska	+103.4	1,084	65.1
North Carolina	+404.0	4,412	64.7
<i>10 states with the lowest suspension rates:</i>			
Pennsylvania	+ 59.5	5,722	30.8
Texas	+332.1	2,705	27.9
Vermont	+ 79.6	4,005	22.7
New York	- 42.7	10,795	22.2
California	+148.5	4,760	19.3
Connecticut	+ 37.0	8,522	18.7
Massachusetts	- 54.1	14,215	17.0
Delaware	+ 66.7	5,718	15.4
Rhode Island	- 50.7	18,315	12.1
New Hampshire	+ 21.2	5,539	11.3
For the United States as a whole	+118.3	3,496	49.7

* *Federal Reserve Bulletin*, December 1937, p. 1220.

banking system and is about on the general level of the state banks. One may add that this is not a fair test of the efficiency of genuine branch banking. Of the 388 branches involved in failures, only 113 were located outside of the home city of the

parent bank, and none was able to obtain the advantages of diversification that might arise out of interstate branch banking.

Stockholders' equity in banks as related to failure. It is natural to suspect that one contributing factor in bank failures is insufficient stockholders' equity. Table 42 contains a comparison of the ratio of stockholders' equity to deposits between national banks which failed during the first ten months of 1932 and all national banks. The comparison is as of December 1, 1930, which is sufficiently far ahead of the date of the failures involved to give a fair picture.

The evidence is not at all conclusive that, one year or more before failure, the failed banks had a stockholders' equity ratio inferior to that of the average bank. The difference in the two groups of small banks is so slight as to be of little significance, while the equity ratio of the group of largest banks was actually greater for the failed banks than for all banks. This, of course, does not mean that a satisfactory ratio of invested capital is not a necessary feature of sound banking. It does indicate, however, that it will not overcome the effects of bad management.⁶

TABLE 42

RATIO OF STOCKHOLDERS' EQUITY TO DEPOSITS FOR NATIONAL BANKS WHICH FAILED JANUARY 1-OCTOBER 31, 1932, AND FOR ALL NATIONAL BANKS *

(As of December 1, 1930)

<i>Size of Banks Classified According to Capital Stock</i>	<i>Number of Failed Banks</i>	<i>Equity to Deposits— Failed Banks (By Per Cents) Stockholders'</i>	<i>Equity to Deposits— All Banks (By Per Cents) Stockholders'</i>
Under \$200,000	183	15.7%	17.5%
\$200,000-\$999,000	52	14.6	16.9
\$1,000,000 and over	4	16.3	16.1

* Compiled from the *Annual Reports of the Comptroller of the Currency*.

Managerial policies and failures. There can be no doubt that managerial policies greatly determine the fate of banks. A number of studies have been made that attempt to isolate some of the practices that have led to failure. These studies have mainly compared the practices of banks that failed during the critical

⁶ Also see Rodkey, R. G., *State Bank Failures in Michigan, 1935, Michigan Business Studies*, Vol. VII, No. 2.

years of 1930-1933 with those which survived. Not too much reliance can be placed on these comparisons, for the results of different studies have not always been entirely consistent. For instance, Professor Rodkey's study of failed country banks in Michigan revealed that real estate mortgage loans amounted to a smaller percentage of the savings deposits of the failed banks (37.5 per cent) than of the surviving banks (43 per cent). In contrast, among the outlying Chicago banks, the failed banks carried, as of 1929, somewhat more real estate loans than did the banks that survived, in proportion to savings accounts.⁷ More significant results were obtained from the studies of bond portfolios of surviving and failed banks. In both Michigan and North Carolina, for example, surviving bank bond portfolios before 1930 contained a substantially higher proportion of United States Government, state, and municipal bonds than did the portfolios of banks that failed.⁸

Conclusion. The evidence presented here suggests that faulty management rather than external circumstances is the major cause of bank failures. During prosperous times, fraudulent and illegal banking practices loom large among the causes of failures. During periods of prolonged depression, weak and inefficient management, unable to meet the rigorous requirements of the times, contributes heavily to failures. It follows, therefore, that the most fruitful remedies for bank failure must be sought in improved management. There are, naturally, two general methods of approach to the problem of improving bad bank management. The first involves the use of direct pressure; the second, the altering of the institutional framework within which bankers must function. One form of direct pressure might well consist of a requirement that all banks executives should demonstrate their possession of a minimum amount of knowledge of sound banking principles and practice by passing some form of examination. Such a plan might give rise to a body of "certified bankers," who would assist in the promotion of a professional attitude among bankers in general. In addition to such measures, there

⁷ Thomas, R. G., "Bank Failures—Causes and Remedies," *Journal of Business*, July 1935, pp. 312-313. For similar findings, see a study made by the Research Committee of the North Carolina Bankers Association, *Trends in North Carolina Banking, 1927-1937*, 1938, pp. 144-145.

⁸ Rodkey, *op. cit.* and *Trends in North Carolina Banking*, p. 141.

must be retained and strengthened the existing methods of examination and control by public authority. The intelligent bank examiner and supervisor can very effectively improve the quality of bank management by insistence upon sound loan and investment policies, as well as by the detection of fraudulent and illegal practices.

A consideration of any alteration of the institutional framework surrounding banking activities confronts us with the question of what changes are desirable. Although it is commonly held that small banks are much more susceptible to failure than large banks, and therefore that large banking units are to be encouraged, the evidence indicates that the failure rate of large banks, operating under similar conditions, is quite as great as that of small banks. An attempt to prevent failures by encouraging the development of banks of larger size cannot in itself be expected to be particularly beneficial. One benefit from such an attempt might arise from the fact that the increase in the size of banks in rural areas would necessitate the introduction of branch banking. If branch systems of the type capable of promoting diversification of loans and deposits resulted, there should be a definite gain in bank stability.

Another proposed improvement in the banking system takes the form of minimum requirements for the ratio of stockholders' equity to deposit liabilities. But the facts indicate that such requirements would be of little consequence in preventing failures. The failed banks studied generally had a ratio of stockholders' equity to deposits as substantial as that of the surviving banks and, in any event, well above the commonly suggested minimum.

Although the failure experience of state banks was considerably worse than that of national banks, membership in the Federal Reserve System appears to have been of little benefit. When one takes into account the fact that most state member banks are located in areas less exposed to depression, their superiority over nonmember banks becomes unimportant in the light of their decided inferiority in comparison with national banks. Attempts to force all state banks into membership in the Federal Reserve System appear to be of little use in preventing failures. On the other hand, very definite gains might be realized by the abolition of the dual system of chartering banks. This is true, first, because the state-chartered banks have been much more susceptible to

failure than the national banks, and second, because the dual system has contributed to overexpansion of new banks during periods of prosperity. This outcome has in turn tended to increase the number of inexperienced and incompetent bankers in the field and has resulted in excessive competition, leading to unwise banking practices. The effectiveness of public supervision could be greatly enhanced by a unified system of commercial banks under Federal control.

In both good and bad times defective bank management has all too frequently taken the form of excessive loans to the bank's own officers. This fact suggests two possibilities for improvement. First, the \$2,500 limit on loans by banks to their executive officers or to firms in which they are partners, as provided in the Banking Act of 1935, should be extended to include loans to all firms controlled in any substantial measure by such bank officers. This rule would definitely ban the doubtful practice of attempting an impartial appraisal of the banker's own credit standing and should go far toward reducing the abuses of excessive and fraudulent loans to insiders. Second, the temptation on the part of inside interests to engage in borrowing might well be reduced. An outright prohibition of all non-banking affiliates would be a wholesome change. This could be done with no harm to banking efficiency if branch banking barriers were abolished. Also, branch banking, in contrast with unit banking, furnishes a more adequate outlet for the energies and abilities of the capable banker and reduces somewhat the urge to develop outside business interests.

The possibilities of improvement in the management of banks seem greater under a sound branch banking system than under a unit banking system. The evidence indicates, however, that branch banking as we have it in the United States has not on the average been equal to the average performance of the national banks, which are predominantly of the unit form. Branch banking, to be of any serious consequence, must be allowed to develop over wider areas than those permitted at present.

MEETING THE PROBLEM OF FAILURES; REHABILITATION OF BANKS

The reopening of the banks after the holiday by no means completed the task. In many communities there were no banking

facilities; in others the banks in operation had little sound capital or stockholders' equity; and in some places banking facilities were inadequate to serve local needs. Finally, there was the problem of salvaging as much as possible from the banks that had failed.

Sale of capital obligations to the RFC. To strengthen the capital structure of the reopened banks, they were encouraged to sell preferred stock to the RFC (capital notes or debentures were used where state law did not permit the issuance of preferred stock free from double liability). Such banks were first examined and were required to have a reasonable margin of owners' equity to protect the RFC's interest. Anticipated earnings were required to be sufficiently adequate to provide dividends or interest charges. When funds were advanced against capital notes or debentures or loaned against the security of preferred stock, the banks were required to give assurance that the management and the salaries would be satisfactory to the RFC while it owned any of their obligations.

By November 30, 1935, the RFC owned \$879,348,000 of preferred stock, capital notes, and debentures of banks. These holdings have now declined to a nominal figure.

Rehabilitation of closed banks. In many instances it seems desirable to rehabilitate a closed bank, either because of the need for its services in the community or because it offers a better way of salvaging the assets for depositors. The general principle of such rehabilitation involves the establishment of adequate sound capital in excess of the bank's liabilities to depositors. This may be accomplished by the sale of a sufficient amount of new stock, by the assessment of old stockholders, by waivers of depositors to their claims, or by a combination of methods. Two general methods were used in rehabilitating closed banks after the holiday.⁹

Under what is known as the *straight rehabilitation plan*, the existing bank is reorganized by: (1) writing off bad assets to the amount of the capital, surplus, and undivided profits; (2) a waiver of the depositors' claims by an amount necessary to bring the volume of deposits not waived down to equality with the sound assets; (3) the surrender of old shares by stockholders and a resale of

⁹ Upham, Cyril B., and Lamke, Edwin, *Closed and Distressed Banks*, Washington, Brookings Institution, 1934, pp. 191-193.

these shares to them as a source of new capital funds; and (4) the sale of preferred stock to the public and to the RFC if necessary. Since the waiver of depositor claims has rendered the bank solvent, no claim for double liability can be exercised against the stockholders. The poor assets are set aside, and anything realized from them is applied to the waived deposits. Such an arrangement may be brought about, in the case of national banks, by the written agreement of persons holding two-thirds of the stock and 75 per cent of the unsecured deposits (or other liabilities), provided consent is given by the Comptroller. Depositors and stockholders who do not consent to the agreement are also bound. Upon the reopening of the bank, the unwaived portion of deposits is made available without restriction.

The second method used is known as *waiver and sale*. Under it, the depositors are called upon to waive their claims in excess of the amount that can be realized from a sale of the sound assets to another bank newly created. The newly organized bank purchases the sound assets and assumes the unwaived liabilities of the old bank. The unacceptable assets are transferred to a trustee, who liquidates them and applies the proceeds to payment of the waived claims. The amount available may sometimes be increased by means of a loan from the RFC against assets not sold to the new bank.

Liquidation in the absence of reorganization. A failed bank that cannot be reorganized is put into the hands of a receiver with authority to liquidate the assets and pay the proved claims. The appointment of the receiver has often proved to be a problem. Two principal methods have been used. Previous to the existence of the FDIC, the Comptroller of the Currency appointed the receiver for national banks, and the liquidation was carried on under the supervision of the experts in charge of the division of insolvent banks. Now the FDIC automatically becomes receiver for any failed national bank. Receivers for state banks were generally appointed by local courts and were answerable only to them. The more modern method of handling state bank liquidations is that used in Indiana, where the Department of Financial Institutions takes possession of a closed bank, and its agents carry out the process of liquidation. The acts of this department, however, are subject to the approval of a court of competent jurisdiction.

The appointment of liquidating agents or receivers by the Comptroller of the Currency, by state authorities, or by local courts has been criticized on the grounds that jobs have been given on the basis of political considerations or for motives not in harmony with the best interests of the bank and the public. At best liquidations are costly and wasteful. Claims against debtors are compromised when they might have been collected in full by officers of a going bank; expenses for legal services are high. These difficulties explain in part the superior advantages of rehabilitation of a bank over a receivership even at the expense of giving up the right to enforce double liability on the stockholders when it exists. In spite of problems that arise from having agents of a central authority, instead of local persons, liquidate a bank, centralization of liquidation is a very definite advantage, since costs can be reduced and more experienced agents employed.

MEETING THE PROBLEM OF FAILURE; DEPOSIT INSURANCE

General problem. Depressions that result in numerous bank failures usually bring agitation for some form of guaranty or insurance of bank deposits to protect the depositor from loss. As early as 1829, the state of New York attempted to accomplish this through the Safety Fund System, which was established to guarantee the payment of notes and deposit obligations of the banks of that state. After the panic of 1893, a movement was again started to guarantee deposits, but it failed to achieve any tangible results in the form of legislation. Modern experience with guaranty of deposits followed the panic of 1907. The year 1908 saw the inauguration of a compulsory system of bank deposit guaranty in the state of Oklahoma, followed by guaranty legislation in seven other states; thus eight states tried a system of guaranty in some form or other. The results of these experiments were such as to dampen the enthusiasm of people who had previously advocated the plan. In times of good business and up to the depression beginning in 1920, they worked well. But bank failures became so numerous during and after this depression that in every case the burden became too great and the systems collapsed.¹⁰

¹⁰ For an account and criticism of the state guaranty systems see *The Guaranty of Bank Deposits*, 1933, by the Economic Policy Commission of the American Bankers Association.

The case for deposit guaranty or insurance. Such a far-reaching matter as the guaranty of bank deposits on a nationwide scale can be justified only on the grounds of public policy. One may properly ask, therefore, if there is any real public advantage in a guaranty or insurance system that wholly or in part shifts the risks of bank failure from the depositors to someone else. Is the shock to a community resulting from the loss of depositors' funds of sufficient importance to justify an attempt to cushion it through some form of insurance? The president of an important New York City bank is reported to have said in opposition to guaranty of deposits: "There is no more reason to guarantee banks that are not run well than there is to guarantee department stores or industrial concerns that are badly run." This remark is misleading, for it implies that a guaranty of bank deposits constitutes a guaranty of the bank. Such an interpretation is inaccurate. There is no attempt to guarantee that the banking venture will turn out profitably for the owners. If the bank is not soundly operated, the stockholders stand to lose with a system of guaranty quite as readily as without. The real question is whether or not the community welfare is so intimately tied up with the continued functioning of its banking system and the safety of its bank deposits that it is desirable to lessen the shock by spreading the loss. Any person who has witnessed the paralysis that seizes a community that has suffered bank failures realizes that this is at least a reasonable question, not to be dismissed by sweeping generalities. The salutary effect on the economic life of the country as a whole from abolishing runs on banks and reducing the shock from bank failures suffered by particular communities can hardly be denied. Although different in its application, its immediate results are somewhat similar to those of fire insurance, the essential advantage of which lies in the reduction in the shock by spreading the loss.

The experience of states that tried deposit guaranty showed that runs on banks were prevented. To the extent that deposit insurance frees bankers from the fear of runs, it reduces the necessity of maintaining a position of extreme liquidity during critical times and removes the need for forced bank credit liquidation that arises from the fear of depositor panic. It seems certain, therefore, that deposit insurance makes it possible for banks to serve their communities more adequately during depression periods.

Guaranty of deposits and quality of bank management. Does a guaranty system encourage bad banking? Is the irresponsible and dishonest banker more able than before to deceive the public, so that the whole system degenerates? Is incompetence increased? Bankers in the past often went on record as opposing guaranty of deposits on this ground. It was argued that, with all deposits equally well protected, the public would no longer base its choice of banks on the security afforded by the conservatism of the management, but would patronize the banker who pays the higher interest rates or provides the most free services. This, in turn, would result in competition that would be disastrous to sound banking. Cogent as this reason undoubtedly is, its validity is necessarily based upon the assumption that depositors: (1) are able to choose their bankers intelligently—that they are able to distinguish between a sound and conservatively managed institution and one not so managed; and (2) choose their banking connections mainly because of a fancied security of deposits and because of interest payments and free services. As to the first assumption, there is little evidence that the average bank depositor is able to make an intelligent choice of banks. The depositors in the thousands of banks that suspended without reopening since 1921 are eloquent testimony of the helplessness of the average depositor. Moreover, the dangerous competition of banks offering higher interest on deposits and free services has confronted the conservative banker for many years. As a result, clearinghouses commonly regulated interest payments on deposits long before the advent of deposit insurance. These considerations tend to support the contention that the depositor, even with no guaranty, is quite unable to distinguish between the sound and the unsound banks. In general, it seems fair to conclude that, with a guaranty system, the small depositor will be no more inclined to patronize the unsound banker than before. The larger depositor, who may be able to investigate and judge a bank's solvency, need not be encouraged to slacken his vigilance by the existence of a deposit guaranty. He will still prefer to deal with a sound banker of established reputation who is able to provide adequate service and sound financial aid and guidance. In addition, a limit of insurance or guaranty coverage of \$10,000, such as exists in the present system, makes it necessary for large depositors to discriminate in favor of sound banks.

To offset possible tendencies toward lax banking induced by a uniform system of guaranty of deposits, there must be more careful and effective supervision of banking practices. Such improvements are needed in any event. Obviously, more care should be used in the issue of charters in prosperous times to prevent "over-banking," and effective means are required for ridding the banking world of individuals who engage in shady and unsound practices. A guaranty system strengthens the hands of the supervising officials in managing difficult cases. Without it the officials are reluctant to take any strong measures against bankers violating the law and the rules of sound banking practice, for fear of unfavorable consequences to the credit standing of the remaining banks of the community. Under a system of guaranty this need not be an issue, and the supervising officials may with impunity order the institution closed and its affairs wound up or may compel the withdrawal of offending officials, with resultant savings to both the depositors and the stockholders. Finally, it should be remembered that without a guaranty system the main method we have had for ridding the community of incompetent bankers is to let them fail. This method still exists under a guaranty system. The unsound and incompetent banker can fail quite as effectually under a guaranty system as without it. Conversely, the rewards of the sound banker in the form of profits derived from long and successful banking practice will remain. One may properly reject the contention that a guaranty system will ruin the banking system by enabling the weak, incompetent, or irresponsible banker to gain at the expense of the sound, conservative, and able banker.

Financial burden of deposit insurance or guaranty. The experience of the eight states that tried systems of guaranty of bank deposits was so unfortunate as to lead many to believe that a guaranty of deposits on a sound and equitable basis was impossible. Without exception, these state systems worked well in fair weather, but were unable to withstand the load of general depression. The burden placed upon the bankers who remained solvent became intolerable and resulted in the eventual abandonment of the attempt in every state. Naturally enough, when proposals were first advanced for a nationwide system of deposit insurance, bankers were alarmed at the prospect that the state bank experience might be repeated. Especially were they opposed to unlimited

assessments against good banks to pay the liabilities of those which fail. The experiences of the eight state attempts at deposit guaranty and the criticisms of bankers were responsible to a considerable degree for the form our present system of deposit insurance has assumed.

Because of the unfortunate experience of the states that tried deposit insurance, it was often assumed that any form of such insurance is doomed to failure. This, however, is not the case. The collapse of the state systems can be traced to two main causes: first, inadequate supervision of the system in several instances may be blamed for part of the difficulties; and second, individual states were unable to furnish adequate diversification of risk. These weaknesses are largely avoided in the present nationwide system.

One point in respect to the costs of deposit guaranty or insurance should be especially emphasized. The costs involved in payment of insured depositors of failed banks do not represent any added costs to the country as a whole, but merely consist of a reallocation designed to reduce the economic shock of meeting them.

THE PRESENT DEPOSIT INSURANCE SYSTEM

The first attempt to develop a nationwide system of insurance of bank deposits was undertaken in connection with the Banking Act of 1933. Congress then amended the Federal Reserve Act by adding Section 12 B, which provided for the insurance of deposits of all Federal Reserve members and qualifying nonmember banks. As originally enacted, the law provided a temporary plan of insurance that was to be in force from January 1, 1934, until July 1, 1934, at which time a permanent plan was to go into operation. The temporary plan was designed to bridge the gap until the permanent plan could be started. But the introduction of the permanent system of deposit insurance was postponed until August, 1935.

The present insurance of deposits. Under the permanent plan, the insurance coverage on any deposit in an insured bank is limited to \$10,000.* An "insured deposit" is defined as "the net amount due to any deposit or deposits in an insured bank (after deducting offsets) less any part thereof which is in excess of

* Insurance coverage was raised from \$5,000 to \$10,000 on September 21, 1950.

\$10,000." For the purpose of determining the amount owed to any depositor, all deposits in the bank for his benefit, either in his own name or in the name of others, are combined. Trust funds held on deposit while awaiting investment or disposal are considered separately from other deposits regardless of the beneficiary, and each separate trust fund is insured up to \$10,000.

Table 43 indicates the protection afforded bank depositors under the \$10,000 limit. In 1949, 98.4 per cent of the total deposit accounts in insured banks would have been fully covered. However, because of the heavy concentration of demand deposits in the hands of large depositors, only 52.4 per cent of the dollar volume would have been covered. Banks having deposits in excess of \$100,000,000 held over one half of the demand deposits of individuals and firms. Under the \$10,000 limit these same banks would have had insurance protection of only \$12.1 billion on total demand deposits of \$40.9 billion. Thus the insurance coverage on such deposits amounted to but 29.5 per cent.

The Federal Deposit Insurance Corporation. The insurance of bank deposits is in the hands of the Federal Deposit Insurance Corporation, a government corporation organized with an original capital of \$289,000,000. \$150,000,000 of this was subscribed by the United States Treasury and the remainder by the Federal Reserve Banks.¹¹ This capital has since been retired.

TABLE 43

PROTECTION AFFORDED BY DEPOSIT INSURANCE WITH MAXIMUM COVERAGE OF \$10,000 PER DEPOSITOR, ALL INSURED COMMERCIAL BANKS, SEPTEMBER 30, 1949 *

Account or deposit item	
Number of banks	13,440
Number of accounts (in thousands):	
Total	91,452
\$10,000 or less in amount	90,040
\$10,000 or less as percentage of total	98.4
Amount of deposits (in millions):	
Total	\$139,252
Insured	72,998
Insured as percentage of total	5,214

* *Federal Reserve Bulletin*, February 1950, pp. 141-143. Figures for 1949 are used in the absence of later data.

¹¹ Each Federal Reserve Bank subscription equaled one-half of its surplus account as of January 1, 1934.

Powers and procedures. The Federal Deposit Insurance Corporation is under the management of a board of directors consisting of the Comptroller of the Currency and two others appointed by the President. The corporation is empowered to appoint examiners with power to examine all insured nonmember state banks, any national banks with the written consent of the Comptroller, and any state member bank with written consent of the Board of Governors of the Federal Reserve System. The corporation shall be appointed receiver of all failed national banks and shall *accept* appointment as receiver of failed insured state banks when such receivership is tendered by state supervisory authorities under the state law.

As soon as possible after failure of an insured bank, the corporation shall make available to each depositor the amount of the insured deposits, either by transferring it to another insured bank in the same community, by depositing it in a new national bank with a temporary organization if public interest so requires, or by direct payment to depositors.

The corporation is subrogated to the rights of the insured depositors of the closed banks to the extent that it is entitled to receive the same dividends from the proceeds of the assets and recoveries on account of stockholders' liability as would have been payable to the depositor on a claim for the insured deposit. The depositor retains his claim for any uninsured portion of his deposit. The corporation, therefore, is in the position only of a general rather than a preferred creditor.

Not only is the corporation to act as receiver of all failed national banks, and where permitted, of failed insured state banks, but it may also purchase or make loans upon the assets of failed insured banks to facilitate the liquidation process.

Regulation and control by the FDIC. The ultimate success of deposit insurance rests upon the soundness of the insured banks. That excessive failures will inevitably result in the undoing of the whole project is amply demonstrated by the experiences of the individual states that tried deposit insurance. Care must be taken that bankers shall not rely upon the insurance rather than upon sound management methods to command public confidence and attract business. Such a loosely knit banking structure as ours can hardly be relied upon to follow conservative and sound prac-

tices without fairly rigorous supervision. Under deposit insurance, this supervision has been considerably strengthened.

The relatively poor showing of state banks belonging to the Federal Reserve System during the troubled times between 1929 and 1933 indicated clearly that membership in the Federal Reserve System alone was no guaranty of good management. Although the Board of Governors of the Federal Reserve System (called the Federal Reserve Board before 1936) had authority to examine member banks, the exercise of this right involved duplication of the efforts of the Comptroller of the Currency (who has supervision over national banks) or the state bank examiners. Consequently the Federal Reserve authorities normally accepted the report of the state or national bank examiners without any independent examination of their own. Since 1933, however, the Federal Reserve authorities have adopted a policy of examining all state-chartered member banks at least once each year. The Federal Deposit Insurance Corporation has specific power to examine insured nonmember banks; to examine national banks with the consent of the Comptroller of the Currency; and to scrutinize state member banks with the consent of the Board of Governors. It has, therefore, adopted the practice of making annual examinations of each nonmember insured bank, with additional examinations when conditions seem to warrant them. Furthermore, it has authority to require all insured member banks to submit reports, and it has access to any reports to and results of examinations by the Comptroller and the Federal Reserve Banks. The Federal Deposit Insurance Corporation is therefore in a good position to detect and act upon poor management policies of the nonmember state banks. Its control over national and state member banks is still rather ill-defined and has led to proposals that power of examination and supervision of all insured banks, member state and national banks, as well as nonmember banks, should be concentrated in the hands of the Federal Deposit Insurance Corporation.

As a means of preventing the admission of unsound banks to insured status, the Federal Deposit Insurance Corporation examines all applicants. The chartering of new banks has presented something of a problem. It has been generally agreed that a serious fault in the American banking system is to be

found in the chartering of banks in locations already adequately supplied with banking facilities, a practice leading to a tendency toward cutthroat competition and unsound banking practices. In an attempt to forestall a repetition of excess chartering, the Federal Deposit Insurance Corporation has endeavored to persuade state authorities not to grant new charters until it has examined each local situation and has agreed to admit a new bank to the deposit insurance system.

Since many banks were admitted to membership in the insurance system with little if any real "sound capital," there has been a definite effort to increase the stockholders' equity in insured banks. The rule was laid down that the "net sound capital" of all insured banks should equal at least 10 per cent of a bank's deposits. This goal, however, was never reached. By the end of 1949 the ratio of capital accounts to deposits of insured commercial banks averaged only 7.6 per cent.

Finally, it is the duty of the Federal Deposit Insurance Corporation to prohibit the payment of interest on demand deposits and to limit the interest payments on time and savings deposits of insured nonmember banks. It is also required to prohibit the payment of time deposits of insured nonmember banks before maturity except under regulations of the same sort as are set up by the Board of Governors for member banks.

Termination of insured status. Any nonmember insured bank may terminate its insured status upon ninety days' notice. Member banks are required to be insured. Whenever an insured bank is guilty of continued unsound practices or violation of law, the Federal Deposit Insurance Corporation shall notify the supervisory authorities concerned regarding such practices or violations. If conditions are not improved within one hundred twenty days (or less, as determined by the authorities concerned), the corporation may give the bank at least thirty days' notice of intent to terminate the insured status of the bank and set a time for hearing of the case. If the corporation finds the charges substantiated, it may order the termination of the bank's insured status, publish notice of the same, and require the bank to give notice to all depositors to that effect. After the termination of insured status, existing deposits shall continue to be insured for a period of two years, and the bank is liable for the regular insurance assessments. New deposits or additions to old deposits, however, are not in-

sured. Since national banks and Federal Reserve members cannot be uninsured, national banks under the circumstances are put into the hands of a receiver, and state member banks must give up membership in the Federal Reserve System.

Funds available to the FDIC. In addition to the originally subscribed capital, later retired, the FDIC receives income from assessments paid by the insured banks and from interest earned on accumulated funds invested in government securities. Furthermore, it may borrow from the United States Treasury in case of need.

The most important source of revenue of the FDIC is the assessment paid semiannually by the insured banks. This assessment amounts annually to one-twelfth of 1 per cent of the banks' average deposits. The assessment, paid semiannually, is computed by multiplying the rate (one twenty-fourth of 1 per cent semiannually) by the assessment base, which is the average difference between total deposits and total uncollected items when calculated on a quarterly basis. Excluded are deposits payable only at an office outside of the United States or its dependencies, and at the bank's option, deposits payable only at a branch located in a dependency of the United States. During 1948, the income received from assessments was \$119,000,000, whereas for the period 1933-1948 it amounted to \$904,300,000.¹²

The second source of income is the investments of the FDIC in United States securities. These investments, representing capital and surplus of the Corporation, were about \$1 billion at the end of 1948, and produced an income during that year of about forty-three million dollars. During the 1933-1948 period, the total income of this type was \$244 million.¹³

Finally, the FDIC may borrow up to three billion dollars from the United States Treasury. This privilege supplants an earlier provision of the law entitling it to borrow about one billion dollars from the Treasury.

Retirement of capital stock of the FDIC. Upon the recommendation of the Corporation, Congress enacted a law, approved August 5, 1947, which authorized the FDIC to retire the whole of its capital stock amounting to \$289,299,556.99. The retirement was conditioned upon the continued maintenance of a combined

¹² *Annual Report of the Federal Deposit Insurance Corporation, 1948*, p. 19.

¹³ *Ibid.*

minimum capital and surplus of \$1 billion. The retirement of stock, begun in September 1947, was completed on August 30, 1948.

Extent of membership in the Federal Deposit Insurance Corporation. By the end of December 1947, 13,597 commercial and mutual savings banks were members of the Federal Deposit Insurance Corporation. These banks constituted 92 per cent of the number of all banks and their deposits amounted to 95 per cent of the total bank deposits. Chart 36 shows membership in the deposit insurance system by individual states.

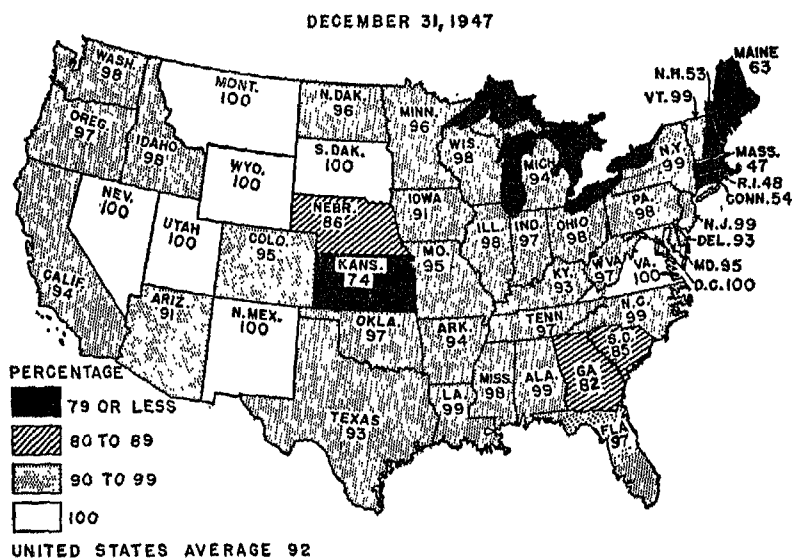


CHART 36. INSURED BANKS AS A PERCENTAGE OF ALL BANKS (Source: *Annual Report of the Federal Deposit Insurance Corporation*, 1947, p. 31)

Full protection for depositors through mergers. Under the law, the insurance coverage for each depositor in an insured bank is limited to \$10,000. But by making use of its power to assist in the promotion of mergers of unsound with sound banks, the FDIC has been able in many cases to provide complete protection of deposits, both large and small. At the same time it has not only reduced its own losses but also has protected the community from the shock and loss arising from receiverships for failed banks.

The costs and wastes of putting a bank through a receivership are well known. Such costs and wastes are important to the FDIC

because its ultimate loss from deposit insurance is directly affected by the efficiency with which the affairs of the unsound and failing banks are handled. Therefore the law permits the Corporation to purchase, guarantee, or lend against the assets of banks that have failed or are threatened with failure in order to promote the absorption of the ailing bank by a sound bank in the same community. The sound bank will be willing to assume the deposit liabilities of the other bank only when sound assets to match such liabilities are available for transfer also. In order to provide the necessary volume of sound assets, therefore, the FDIC either provides cash by purchase of or loans against the substandard assets, or adds its guarantee to the substandard assets.

A number of conditions must be satisfied in order that mergers of this kind may be utilized. First, the authority of the FDIC to participate is dependent upon the decision of the its directors that such action will reduce its probable losses below what might be expected from a receivership. Second, consent to the merger must be granted by the supervisory authorities under whose jurisdiction the banks concerned operate. Third, if no other bank exists in the community, the method of merger cannot be used. In that case either the bank will have to be rehabilitated through some "straight rehabilitation" plan or through "waiver and sale" to a newly organized bank if receivership is to be avoided.

The FDIC is on record as favoring the use of the merger plan wherever possible. "The experience of the Corporation has indicated that its loss is less, relative to the amount of insured deposits, than when a bank is placed in receivership. Only that part of the assets of the weak or insolvent bank not acceptable to the absorbing bank is subjected to liquidation, other costs of receivership are avoided, and there is less adverse effect on property values in the community. Since the Corporation is the only creditor, the acquired assets are liquidated in an orderly manner by the Board of Directors."¹⁴ The depositors are benefited by receiving *in effect* full 100 per cent protection.

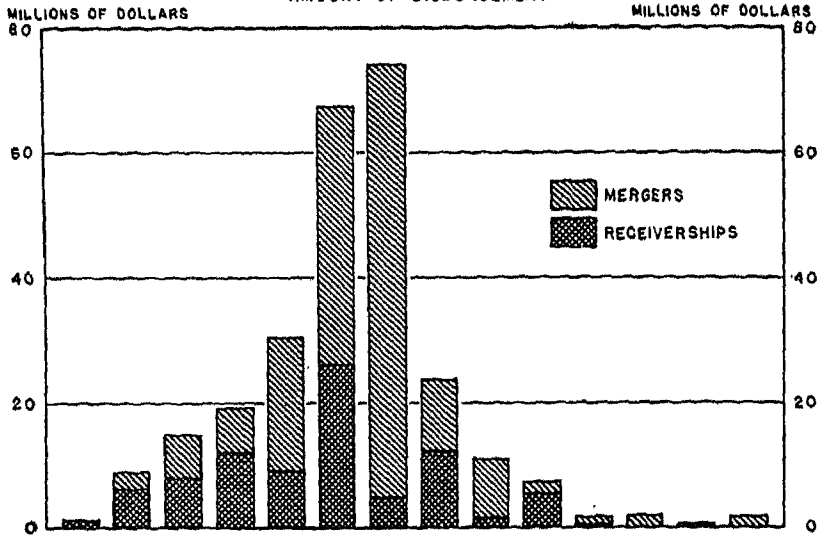
The relative importance of the use of mergers and receiverships in handling the affairs of insured banks is shown in Chart 37 and Table 44.

¹⁴ *Annual Report of the Federal Deposit Insurance Corporation, 1947*, pp. 10-11.

DISBURSEMENTS BY THE CORPORATION TO PROTECT DEPOSITORS IN INSURED BANKS

1934-1947

AMOUNT OF DISBURSEMENT



NUMBER OF BANKS

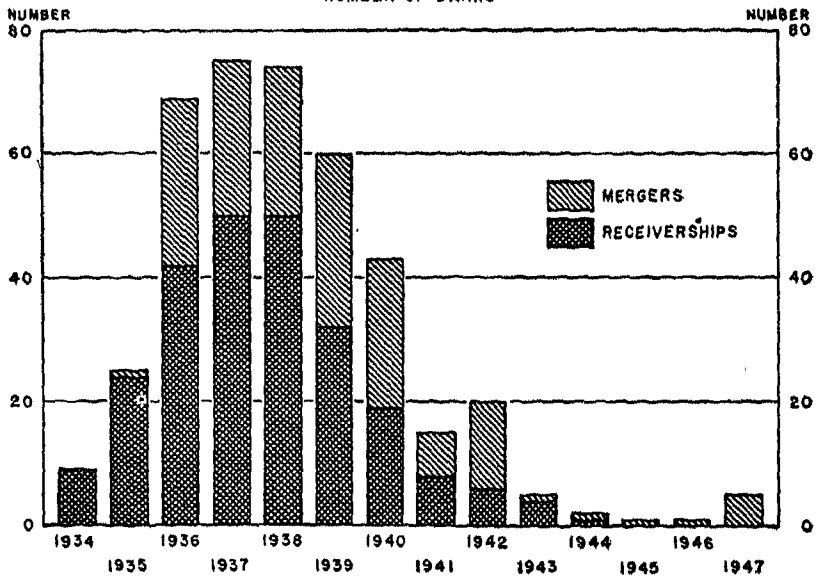


CHART 37. Source: *Annual Report of the Federal Deposit Insurance Corporation*, 1947, p. 12.

The experience of the FDIC. Since the Federal Deposit Insurance Corporation was started in 1934 conditions have been most favorable for bank survival. In general, the banks that were admitted to insurance had proved their stability by surviving the bank holiday of 1933. Moreover, from that time on business conditions, in spite of cyclical setbacks, tended to improve over the years. The expansion of the war years provided bankers with an abundance of nonrisk assets and high earnings. Consequently, the number of bank failures in the 15-year period 1934-1948 was the lowest of any 15-year period in our banking experience. Therefore, the FDIC has had no opportunity to demonstrate its ability to cope with banking difficulties growing out of severe depression.

During the period 1934-1949, the Corporation's income exceeded its expenditures by over \$1,289,000,000. This enabled it to retire all of its original capital and establish a surplus account of over \$1,000,000,000.

Probable adequacy of insurance fund. The present insurance fund is to be maintained solely out of the accumulations resulting from an assessment of one-twelfth of 1 per cent of the total deposits of the insured banks. Thus the criticism that in times of heavy failures sound banks will be dragged down by the burden of failures is avoided, since no provision is made for extra assessments. To care for the contingency of concentrated failures that might exhaust the fund, the corporation is granted the borrowing power described above. Within the limits of this borrowing power, the Federal treasury is behind the fund, since it may purchase the corporation's obligations.

A question naturally arises as to the long-run adequacy of the annual assessments to meet the probable future costs of deposit insurance. It has been estimated that if a collection of an annual premium or assessment of one-tenth of 1 per cent against national banks had been made from 1863 down to the beginning of 1933, these receipts, plus the unused balances accumulating at 3 per cent interest, would have covered all of the losses from failed national banks, and there would have been a surplus of \$154,000,000 at the beginning of 1933.¹⁵ *The Annual Report of the Federal Deposit*

¹⁵ Taggart, J. H., and Jennings, L. D., "Insurance of Bank Deposits," *Journal of Political Economy*, August 1934, p. 508.

TABLE 44
NUMBER OF DEPOSITORS, AMOUNT OF DEPOSITS, RECOVERIES, AND LOSSES
IN INSURED BANKS PLACED IN RECEIVERSHIP OR MERGED WITH THE
FINANCIAL AID OF THE CORPORATION, 1934-1948 *

Item	Total	Banks Placed in Receivership ¹	Banks Merged with Financial Aid of FDIC
Number of banks	407	245	162
Number of depositors	1,342,290	382,766	959,524
Estimated number with no loss	1,285,010	325,486	959,524
Estimated number with some loss ²	2,509	2,509	.....
Estimated number with claims barred by termination of insurance or receivership ³	54,771	54,771	.....
Amount of deposits	\$522,678,000	\$109,603,000	\$413,075,000
Estimated recovery by depositors	520,347,000	107,272,000	413,075,000
Estimated loss by depositors	1,883,000	1,883,000	.....
Insurance terminated or claims barred	448,000	448,000	.....
Disbursement by FDIC	\$266,975,000	\$ 87,039,000	\$179,937,000
Estimated loss to FDIC	\$ 24,930,000	\$ 14,535,000	\$ 10,395,000

* From the *Annual Report of the Federal Deposit Insurance Corporation*, 1948, p. 9.

¹ The figures given in this table for number of depositors in receiverships differ from those in the 1947 Annual Report due to the final disposition of 6,385 claims, the status of which had been unsettled but were previously tabulated as fully insured. Of these, 4,333 when settled became barred claims; the balance, 2,052, were considered fully insured and the claims paid. The estimated number of depositors with no loss was reduced by 358 restricted claims which were paid in full or into a trust fund until claimed by the depositors. An adjustment of one depositor in the total number has also been made.

² 1,502 depositors will lose an estimated \$1,841,000 in accounts which exceeded the limit of \$5,000 insurance and were not otherwise protected, and 1,007 depositors will lose about \$42,000 in accounts which had been restricted or deferred prior to 1934, or were otherwise ineligible for insurance protection.

³ Of these 54,771 claims, it is estimated that 2,810 will be fully paid or held in trust, and 4,422 will be partially paid.

Insurance Corporation for 1934 gives an estimate of the annual losses for the period 1865 to 1934 per \$100 of deposits in active banks as follows: ¹⁶

	Total Losses	Losses on Deposits Insurable under the \$5,000 Limitation
National banks	\$.227	\$.149
State banks .....	.412	.328
All banks .....	.324	.241

If these figures are correct, one may question the adequacy of an assessment of one-twelfth of 1 per cent to insure the deposits of all banks unless very definite reforms can be instituted to improve banking practices and reduce failure losses.

The favorable experience of the FDIC has led to requests from bankers that the assessment rate be modified and the coverage increased.¹⁷ Congress, therefore, enacted a new Federal Deposit Insurance Act (September, 1950), which increased the amount of insurance coverage on individual accounts from \$5,000 to \$10,000 and simplified the procedure for calculating the insurance base. It also modified the assessment collection so as to reduce the rate of accumulation of the FDIC surplus. This involved a provision that after total costs, including reserves for losses, are deducted from the proceeds of the semiannual assessment of 1/24th of 1 per cent, only 40 per cent of the remainder (net assessment income) is to be carried to surplus. The remaining 60 per cent is credited against the assessments of the following year. Consequently, surplus accumulations will henceforth be limited to 40 per cent of the net assessment income plus income earned on investments.

It is too early to judge the wisdom of the changes just described. The Corporation not only holds a surplus of over \$1 billion but also may borrow \$3 billion from the Treasury. This would enable the FDIC to meet losses roughly comparable to those suffered by the depositors of the 16,000 banks that failed during the 1921-33 period. However, the risk assets (earning assets other than government obligations) of banks in 1951 considerably exceed those of

¹⁶ P. 90.

¹⁷ Cf. *The Answers of the American Bankers Association*, 1941, p. 26, Research Council, American Bankers Association. For a discussion of the various proposals see "Staff Study on Assessments and Coverage for Deposit Insurance" *Federal Reserve Bulletin*, February 1950, pp. 151-165.

the 1920's. Consequently, a severe depression could impose losses of a magnitude beyond the powers of the FDIC to absorb. On the favorable side is the fact that the existence of deposit insurance will help greatly to reduce panic and avoid failures arising from that source. Moreover, it is unlikely that a depression will ever again be permitted to degenerate into such a liquidity panic as that characterizing the Great Depression. Finally, in an emergency, the Treasury would doubtless give additional aid to the FDIC.

Questions for Study

1. When are banks insolvent? Why do banks sometimes fail even though they are basically sound?
2. What co-operative steps did the banks take to assist those in distress in 1931?
3. What conditions led up to the general banking holiday of March 6, 1933? What steps were taken to hasten the reopening of the sound banks?
4. Examine Table 35. Except for times of business depression, what seems to have been the most important cause of failure? Is it proper to say that improvement in bank management would be likely to reduce the number of failures "even in bad times?"
5. Examine Tables 36, 37, and 38. What appears to be the connection between bank failures and the size of banks?
6. From an examination of Tables 39 and 40, what conclusion can you draw as to the effectiveness of Federal reserve membership as a prevention of bank failure?
7. From Table 41, would you agree that restrictions on bank charters might be helpful?
8. After you have carefully studied the material dealing with bank failures, make a list of changes and improvements that you think might aid in preventing failures.
9. How was the capital structure of weak banks strengthened in the years following the holiday? How were closed banks rehabilitated?
10. Line up the best arguments for and against the insurance of bank deposits.
11. Where does the FDIC get its money? To what extent has it succeeded in operating within its income?
12. What can the FDIC do to maintain sound banking practices by insured banks?

13. In what way has the FDIC stretched its \$10,000 deposit insurance limit into complete 100 per cent coverage for depositors of failed banks? Why has this been done?
14. What are the pros and cons of the proposals that the FDIC assessment rate be lowered or that the coverage be increased?

Concentration in Banking Control

PARALLELING THE GROWTH OF LARGE-SCALE BUSINESS ENTERPRISE is the development of large-scale banking. In part, this development has been the natural result of the expansion of individual banks as they have shared in the industrial and commercial development of growing cities; in part, it has been the outcome of combinations effected sometimes to satisfy the desire for power, sometimes to combat actual or threatened failure. To no small degree it has come from attempts to secure the real and fancied advantages of size.

LARGE-SCALE BANKING

Concentration in banking control takes a number of forms. First is the emergence of gigantic unit banks, maintaining a single banking office. Such banks, located in the financial centers of the big cities, have become big both by natural growth and by merger. Second are branch banks that acquire size by lateral expansion into territory surrounding the parent or home office. Third are the combinations of banks tied together through the ownership of stock by holding companies. Such combinations are commonly referred to as *group banking*. Holding company groups frequently contain both unit and branch banks. Finally, there is that informal type of concentration of control called *chain banking*, which involves common stock ownership and interlocking directorates without holding company intervention.

The reasons for combinations. No single cause has been responsible for bank mergers. The practice of the FDIC of inducing the merger of unsound with sound banks as a means of

avoiding receivership was used by bankers long before its use was introduced by the FDIC. Consequently, many of today's banks owe their size, in part, to the absorption of weaker banks in their communities. Such a procedure generally makes it possible to expand both deposits and earning assets on advantageous terms, since it is unnecessary to pay any "going value" premium and the absorption may be accomplished with little if any increase in the bank's invested capital. Sometimes such mergers were facilitated by a clearinghouse guarantee against loss should assets taken over prove inadequate to offset the deposit liabilities acquired from the failing bank.

A second reason for mergers has doubtless been the prestige that attaches to larger institutions. Moreover, there is the added attraction of the possible and probable increased monetary rewards afforded the executive officers who survive the merger.

Finally, the reason generally advanced to stockholders who are asked to vote approval of a proposed merger is the expectation of increased earnings on invested capital.¹ In the past, experience justified this claim to some extent. For example, the earnings of member banks in the Chicago Federal Reserve District for the year 1924 were but 4.32 per cent of invested capital for the small banks having earning assets of under \$250,000. The earnings gradually increased with the increased size of bank until they were 10.3 per cent for banks with assets of over \$15,000,000.² Analysis of the earnings of these banks, however, indicates that the main source of advantage of the larger banks lay not so much in superior operating efficiency as in their ability to acquire and maintain a higher level of deposits and earning assets per dollar of invested capital. The banks with earning assets of less than \$250,000 had but \$3.29 of earning assets per dollar of invested capital. In contrast, banks with more than \$15,000,000 of earning assets had \$6.38 of earning assets per dollar of invested capital.

The earning advantage of the large bank over the smaller seems to have disappeared. This fact may be seen by referring to Table 45.

¹ Generally a two-thirds vote of stockholders of each bank is required to ratify merger agreements made by the banks' boards of directors.

² *Preliminary Study of Member Bank Operations and Earnings*, Seventh Federal Reserve District, prepared by the Division of Research and Statistics, Federal Reserve Bank of Chicago.

TABLE 45
MEMBER BANK EARNING RATIOS, 1948 *

	Central Reserve City Banks		Reserve City Banks	Country Banks
	New York	Chicago		
Net current earnings to total capital	8.4%	10.4%	13.1%	13.8%
Net profits to capital **.....	6.1	6.9	7.4	7.8
Avg. earnings on U.S. Government securities	1.44	1.61	1.52	1.65
Avg. earnings on loans	2.40	2.61	3.83	4.99
Earning assets per dollar of invested capital December 31, 1948	\$8.13	\$10.80	\$12.06	\$11.76

* Federal Reserve Bulletin, May 1949, p. 498.

** After income taxes.

METHODS OF CONCENTRATION OF CONTROL

Concentration through trusteeing of stock. Between 1900 and 1927, a special form of banking concentration appeared among city banks. At that time national banks were unable to engage in many profitable activities open to state chartered banks. For example, underwriting investment securities, lending on real estate security, operating a trust department, and handling savings deposits were all areas largely closed to national banks.³ Consequently the larger national banks commonly organized state bank affiliates whose stock was owned pro rata by the stockholders of the national banks and was trusteeed for their benefit. The transfer of the shares of the national bank stock then carried with it ownership of an appropriate amount of stock in the affiliated bank. Affiliated state banks of this kind generally, though not always, operated under the same roof and with the same officers as did the national banks.

The attractive results derived from creation of state bank affiliates for national banks may be seen in the relative earnings of the First National Bank of Chicago and its affiliated First Trust and Savings Bank, which are shown in Table 46.

³ National banks did some underwriting of state, county, and municipal issues only. Their high reserve requirements made it impossible to compete successfully with state banks for savings.

TABLE 46
RATIO OF NET EARNINGS TO INVESTED CAPITAL *
(By Per Cents)

Year	<i>First National Bank of Chicago</i>	<i>First Trust and Savings Bank</i>
1905	7.3%	25.0%
1910	6.4	23.6
1912	8.3	14.7
1915	6.7	9.0
1920	12.4	14.9
1923	7.3	9.4
1924	7.6	10.7
1925	5.6	15.0
1926	9.8	12.4

* Compiled from newspaper reports of net earnings and from official published reports of capital, surplus, and undivided profits.

The advantages of state chartered banks over national banks were gradually eliminated. With the passage of the Federal Reserve Act in 1913, national banks were enabled to compete for savings deposits by the provision for low reserve requirements against time deposits. Moreover, the right to engage in trust company business was given in the same Act. By 1927 the right of national banks to lend on real estate and to buy and sell "investment securities" was definitely recognized. These legislative changes practically abolished the differences between the privileges of state and national charters. Consequently, most state bank affiliates were merged into the national banks. This action was made easier by a provision added to the national banking law in 1927, which expressly granted national banks the right to succeed to the fiduciary or trustee functions exercised by the state banks absorbed.

In order to obtain profits from underwriting speculative securities, a privilege denied to state as well as to national banks, banks frequently organized nonbanking corporations or security companies affiliated with the banks through identical stock ownership. Such companies played an active part in security underwriting and marketing during the 1920's. The Banking Act of 1933, however, abolished security company affiliates for all member banks.⁴

⁴ For a study of the security company phase of American banking history, see W. Nelson Peach's *Security Affiliates of National Banks*, Baltimore, Johns Hopkins Press, 1911.

Banks also organize affiliated corporations to hold real estate in which the bank is housed and even other real property in no way directly concerned with the banking functions. Some have set up holding companies which in turn have acquired an amazing array of interests in addition to the stock of other banks. Some state-chartered banks have been permitted to own stock in other corporations, particularly for purposes of control. Thus, we have had joint stock land bank and security company stock, as well as stock in companies owning bank buildings and safety deposit facilities, in the portfolios of some commercial banks.

The holding company. The holding company has been used by banks to serve two purposes. The first and by far the more laudable is that of unifying the management and control of several banks. The second and less desirable purpose is that of tying up nonbanking corporations with banks. A combination of these two uses has often appeared in which a group of banks and a number of nonbanking affiliates are tied together. The sponsors of holding companies prefer to call this type of combination *group banking*, reserving the title of *chain banking* for combinations tied together in other ways.

Bank holding companies become owners of a controlling interest in the shares of affiliated banks either through outright purchase or through an exchange of stock. The banks remain separate corporations, but their affairs are brought under the control of the holding company, which elects the management. It is not necessary, or course, that the holding company own over one-half of the shares of a bank in order for it to exercise control over the affairs of the bank. Even a modest fraction of ownership will often place the holding company in the position of being the largest stockholder and clothe it with the authority associated with that position. The holding company itself is frequently affiliated through common stock ownership with a large city bank, whose officers dominate the policies of the group.

The peak development in group banking, measured both by the number of groups and the number of banks involved, came before the depression of the 1930's. In 1931, there were 97 banking groups, made up of 978 banks having loans and investments of \$8,716,000,000. By the end of 1936, the number of groups had declined to 52, made up of 479 banks. Twenty-four of the groups in operation in 1931 disappeared because of insolvency of the

holding company growing out of bank failures. Other groups were converted into branch banks.⁵ At the end of 1945, there were 33 groups of banks reported. These groups involved 387 banks, of which 67 operated branches to the number of 861. The total deposits of banks belonging to these groups were \$18 billion. About one-third of these deposits were in banks affiliated with a single California holding company and operating 504 branches.⁶

Branch banking. The contrast between holding company banking and branch banking is that a branch system is one single bank incorporated under a single charter, answerable to a single supervisory authority, all the branches of which are subject to direct central control. The branches are merely devices whereby it is possible to extend banking contacts into areas beyond the reach of the home office. Branch banking may, of course, be tied up with holding company control. For example, at the end of 1945, 67 banks affiliated with bank holding companies maintained 861 branches. In the United States, branch banking can exist only within the confines of individual states, and to a large extent is limited to the home city and the immediately surrounding territory. The limited nature of American branch banking may be seen in the data given in Table 47.

Chain banking. A wide variety of interbanking relations falls under the general head of "chain banking." Control in such chains arises out of various degrees of common stock ownership, ranging all the way from identical ownership represented by trusteeing stock of one bank for the benefit of the stockholders of another to the loose, informal control arising from interlocking directorates.

Chains of banks develop both in rural districts and in cities. Sometimes they arise from the purchase of stock in banks in other locations as a means of extending the banking power of some individual or group of individuals. Rarely are they the result of attempts to restrain competition. Frequently they arise from the efforts of large city banks to attach to themselves a collection of banking satellites. Often this has been accomplished when an officer in a large bank invests in the stock of a smaller one and assumes an important place on its board of directors. Smaller

⁵ "Group Banking in the United States," *Federal Reserve Bulletin*, February 1938.

⁶ *Federal Reserve Bulletin*, April 1947 p. 462.

banks, themselves, are frequently interrelated by complex interlocking directorates and common officers.

Chain banking as defined by the *Federal Reserve Bulletin*, refers to multiple banking office structure in which three or more independently incorporated banks are controlled by the same individual or individuals. On December 31, 1945, in the United

TABLE 47
COMMERCIAL BANKS MAINTAINING BRANCHES DECEMBER 31, 1948 *

	Number	
	Banks	Branches
Total for the United States	1,166	4,349
National banks	298	1,965
State member banks	204	1,232
Insured nonmember banks	628	1,084
Noninsured banks	36	68
<i>Location of Branches</i>		
In head office city		1,983
In head office county but outside home city		1,109
In contiguous counties		593
In noncontiguous counties		776
At military reservations		70

* *Federal Reserve Bulletin*, June 1949, pp. 734-735.

States as a whole, 115 chains, involving 522 banks were reported. Of this number, 45 banks operated a total of 74 branches. Relatively, chain banking involves a much smaller volume of deposits than does either group or branch banking. Total deposits of the chain banks were only \$4.6 billion. Chain banking is most important in the North Central block of states, whose eleven states account for \$2.6 billion out of \$4.6 billion deposits of the chain banks in the whole country. Some picture of the chain banking situation may be seen in Table 48.

The benefits of chain banking are slight. As in the case of holding company control, gains may be had through concentration of reserves and uniform management, or operating economies may arise through the purchase of supplies and services. On the other hand, chain banks are especially susceptible to mismanage-

ment and exploitation. The failures experienced by chains of banks have been so numerous that sponsors of the modern holding company plan insist upon differentiating their type as "group banking" in contrast to "chain banking."

TABLE 48
CHAIN BANKING, DECEMBER 31, 1945 *

<i>Geographic Division</i>	<i>Number of Chains</i>	<i>Number of Chain Banks</i>	<i>Deposits of Chain Banks</i>
United States	115	522	\$4,628 million
New England	3	11	\$ 126
Middle Atlantic	5	32	404
East North Central	21	71	783
West North Central	46	232	1,931
South Atlantic	5	33	585
East South Central	3	10	19
West South Central	19	79	436
Mountain	8	31	249
Pacific	5	23	90

* *Federal Reserve Bulletin*, April 1947, p. 463.

Relation of branch to group and chain banking. Group and chain banking have been particularly stimulated by restrictions on branch banking, as is apparent in the Middle West, where branch banking has been generally prohibited or severely limited. But even in states where branch banking has been permitted, holding company control has been instituted to tie branch banks to one another.

AN EVALUATION OF GROUP AND BRANCH BANKING

Advantages claimed for holding company banking. The sponsors of group banking claim that stockholders of banks which join a group enjoy definite advantages, such as the following:

1. The individual bank may participate in loans to large borrowers who would look elsewhere for accommodation if the group did not exist.
2. Working reserves can be concentrated in the hands of one city correspondent, normally a member of the group. Thus, less idle funds will be required in the hands of city correspondents.

The acting correspondent for the group stands ready to give aid when needed.

3. Affiliated companies engaging in trust business, security underwriting, and the like, enable stockholders in the holding company to participate in the profits from such activities which are denied to stockholders of smaller banks. Part of this argument is no longer valid, because security company business must now be divorced from bank holding companies that hold stock in member banks.

4. Operating economies may be expected from improvements in management. Supplies may be purchased in larger amounts. Advertising becomes more economical. The cost of insurance and bonding of employees can be reduced.

5. The stock of the holding company is often of more value than that of the operating bank, since it has greater diversification of risk behind it, is a larger issue commanding the interest of a wider market, and enjoys the higher earnings derived from the expected economies.

Objections to holding company banking. With intelligent and honest management, holding company banking may be decidedly more desirable than unit banking. Certain vital criticisms, however, can be made:

1. Examination of chains and groups is difficult, since the banks may be spread over a wide area and may be under the control of several separate state authorities in addition to national bank examiners. Under such a situation juggling of funds and assets may be overlooked.

2. The banks may be mismanaged and exploited for the benefit of those in control. This danger was demonstrated in the case of certain failures during the banking crisis of 1932-1933. Banks lent heavily to officers to finance speculation in the stock of the holding company. Unit banks were compelled to pay unwarranted dividends in the face of operating losses to enable the holding company to maintain its dividend policies. Holding companies borrowed from the banks which they owned to finance speculative dealings. The subsidiaries of holding companies in one case included not merely banks but corporations owning office buildings, a chain of hotels, a coal mine, residential and business properties, a produce market, and a security company.

3. When the group becomes so large that it overshadows the independent banks of its area, there arises a real danger that banking competition will be unduly restrained. This was the situation in the case of the Transamerica Corporation of California, which was reported, at the end of 1946, to control 40 per cent of the banking offices and 38 per cent of the commercial bank de-

posits in the five states of Arizona, California, Nevada, Oregon, and Washington. In the state of California alone, it controlled about 50 per cent of the total banking offices.

Advantages of branch banking. The advantages of branch banking may be enumerated as follows:

1. The larger banking unit resulting can better handle the requirements of the large customers.
2. The smaller communities enjoy the advantages of the service of more powerful and presumably sounder banks. The assets of the whole branch bank system are behind each branch, in contrast to the situation in group and chain banking, where no legal responsibility attaches to one part of the system for the other units in case of difficulty.
3. More convenient banking facilities are possible. The population per banking office is considerably greater in unit banking than in branch banking cities.
4. Branch banks can command better managerial skill. Branch managers can be carefully trained and supervised, with greater opportunity for promotion for those of most promise.
5. When branch bank operations extend over a wide geographical area, they resist the shock of depressions more successfully than do unit banks, both because of the greater opportunity for diversification of loan risk and because of the industrial and geographical diversification of deposits so necessary if forced liquidation of loans and bank failure are to be avoided in areas suffering adverse trade balances during depression.
6. Branch banks increase the mobility of capital and make for greater uniformity of interest rates throughout the area served.

Objections to branch banking. The objections raised to branch banking naturally are voiced by the unit banker, who visualizes himself swallowed up in a branch banking development:

1. Branch bankers are likely to require collateral on all loans and to refuse to lend on the character of the borrower, perhaps retarding local economic development. This objection is hardly valid, since even a branch banker is interested in the business development of the bank's locality. Moreover, a more careful loan policy than that of many unit banks is desirable.
2. Funds are withdrawn from rural areas and are placed in cities. In answer to this, it has been shown that Canadian city borrowers complain that the reverse is true, with city funds transferred to rural districts in response to the higher interest rates there.⁷

⁷ Cartinhour, G. T., *Branch, Group, and Chain Banking*, New York, The Macmillan Company, 1931, Chap. XX.

3. Red tape and delay arise from the lack of authority of managers and the necessity for referring loans to the main office. But it is estimated that over 95 per cent of the loans of Canadian branch banks are handled without delay by the branch managers and by the use of the telephone. Branch managers may lend up to a fixed limit or reject loans without reference to the main office.⁸

4. Managers are not properly sympathetic with local needs.

5. Branch managers are shifted too frequently to be of the best service to the community served.

6. Too much concentration in the control of banking operations will arise. Furthermore, mismanagement on a large scale can arise more easily with branch than with unit banking.

The objections just mentioned are hardly sufficient to constitute a serious criticism of branch banking. Certain broader problems exist, however. Branch banks operating solely within the home city are hardly more than handy devices for attracting business to the parent. They offer only part of the genuinely important characteristics of branch banking. What, then, should be the territorial limits of branch banking? Should it be confined to trade areas, or should it be permitted to extend throughout the country? Should it be confined within individual states? The wider the area, the greater become the opportunities for diversification, but at the same time managerial and supervisory problems increase. If it be agreed that the present restrictions on branch banking should be relaxed, under what conditions should banks be permitted to organize branches?

Obviously, great care is required if powerful branch banks are not to be allowed to put unfair pressure upon unit banks. Excessive competition by branch banks with the unit banks might be quite as undesirable as between unit banks themselves. Finally, the supervision of large branch banking systems presents a problem. If the number of branches is large, it is impracticable to examine all at the same time. The head office may be required to furnish a consolidated balance sheet when examined, and the largest branches and the head office may be examined at the same time. Investments and open-market loans are carried in the head office, leaving only local loan paper to be checked at the branches. The Comptroller of the Currency reported no difficulty in ex-

⁸ *Ibid.*

aming the old Bank of Italy (California), with 287 branches.⁹ In any event, the problem of supervision is much simpler than that presented by chain and group banking.

REGULATION OF BRANCH, GROUP, AND CHAIN BANKING

Governmental regulation of branch, group, and chain banking takes the form of (1) permission or prohibition; and (2) special investigation and control.

Legal status of branch banking. The law now permits national banks to establish branches in states where branch banking is expressly permitted. The following restrictions apply, however:

1. National banks are subject to the same territorial limits as are the state banks. Wherever state banks are limited to city- or county-wide branches, national banks are similarly limited.
2. Approval of the Comptroller of the Currency must be obtained.
3. Under the law, as amended July 15, 1952, a national bank with branches located outside the home city must have a minimum capital equal to the aggregate minimum capital required for setting up a unit national bank at the location of each banking office. Moreover, such a national bank must have capital and surplus at least equal to that required of state banks under the same circumstances.
4. Seasonal agencies may be established in resort communities within the county in which the main office is located, without incurring any capital requirements, if the place is not served by any other bank.

State banks may join the Federal Reserve System and bring with them all branches legally in operation on February 25, 1927; but, in respect to branches organized outside the home city since that date, they must conform to the rules applicable to the establishment of new branches by national banks. Under the amendment of 1952, they may now establish new branches in the same manner and under the same terms as those just described for national banks, except that permission must be obtained from the

⁹ "Branch, Chain, and Group Banking," *Hearings before the Committee on Banking and Currency, House of Representatives, 71st Cong., 2d sess.*, H. Res. 141 pp. 133-134. For a statement of the method used to examine the branch banking systems of the Twelfth Federal Reserve District, see pp. 134-140 of these *Hearings*.

Board of Governors. Insured nonmember banks may not establish or move a branch without the consent of the Federal Deposit Insurance Corporation.

In 1948, 19 states (counting the District of Columbia) specifically permitted state-wide branch banking, 17 specifically permitted limited-area branch banking, 9 states prohibited branches, and 4 had no law dealing with the subject.¹⁰ In all states, banks wishing to establish branches must obtain the permission of supervisory authorities. In general, branches outside the home city may be established where there is no existing bank, or, if other banks operate in the same community, upon the purchase of an existing bank, or by obtaining the consent of the other banks.

Under existing legislation there is no possibility of the establishment of anything like a broad system of branch banking in the United States. Only an extension to national banks of the right to engage in interstate branch banking seems likely to accomplish this purpose. The distinct superiority of branch over chain and holding company banking, which often acquire an interstate character, makes such legislation highly desirable.

Legal control of holding company banking. Attempts to control holding company banking were introduced in the banking acts of 1933 and 1935. In order for holding company affiliates to be able to vote the shares of stock owned by them in national and state member banks, a *voting permit* must be obtained from the Board of Governors of the Federal Reserve System. The Board may grant or withhold the permit in view of the financial condition and character of the management of the holding company. Specifically, as a price for a permit, the holding company must agree: (1) to submit to examination at the time affiliated banks are examined; (2) to permit examination of each bank owned or controlled by the holding company; and (3) to publish individual and consolidated statements of all affiliated banks as required. Furthermore, the holding company is required to set aside as a

¹⁰ *Federal Reserve Bulletin*, May 1948, p. 516. States permitting state-wide branch banking are: Arizona, California, Connecticut, District of Columbia, Idaho, Louisiana, Maine, Maryland, Michigan, Nevada, North Carolina, Oregon, Rhode Island, South Carolina, South Dakota, Utah, Vermont, Virginia, and Washington. States permitting limited-area branch banking are: Alabama, Arkansas, Delaware, Georgia, Indiana, Iowa, Massachusetts, Mississippi, Montana, New Jersey, New Mexico, New York, North Dakota, Ohio, Pennsylvania, Tennessee, and Wisconsin. Those prohibiting branch banking are: Colorado, Florida, Illinois, Kansas, Minnesota, Missouri, Nebraska, Texas, and West Virginia.

reserve fund net earnings above 6 per cent per year on the book value of its own shares. Since June 16, 1938, this fund must equal 12 per cent of the aggregate par value of all bank stock controlled by the holding company. Except in cases where the stockholders of the holding company are individually liable for statutory liability of the company because of its ownership of bank stock, or where the bank stock held has no double liability feature, the reserve fund must be increased annually by at least 2 per cent of the par value of the bank stock held until it amounts to 25 per cent of the aggregate par value of such bank stock. As a further requirement for obtaining a voting permit, the holding company must show that it has no interest in any company engaged in security underwriting or distribution, or that any such interest will be relinquished within five years of the date of filing application for the voting permit. Finally, it must agree to pay dividends only out of actual net earnings.

As regulations stand, a holding company affiliate is not required to obtain a voting permit. Therefore, if it can dominate the affairs of the subsidiary bank without voting the shares of that bank, it can escape altogether from the necessity of submitting to the controls intended in the voting permit requirements. Moreover, in case the holding company controls less than a majority of the outstanding shares of the bank and less than 50 per cent of the shares voted for the election of directors at the last election, it does not *qualify* as a "holding company affiliate," and therefore it need not obtain a voting permit to enable it to cast its votes at the shareholders' meeting. The Board of Governors has pointed out that the definition of holding company affiliate is inadequate to cover frequent cases where control is exercised through a minority stock ownership. Moreover, circumvention by exercising control without the actual voting of shares provides an escape loop-hole.¹¹

Whenever a holding company obtains a voting permit, it is required, of course, to observe the conditions and regulations governing the granting of the permit. Should the voting permit be canceled by the Board for violations, the member banks whose stock is controlled by the holding company may not (1) receive deposits of government funds; nor (2) pay dividends to the holding company. Furthermore, the Board, at its discretion, may require

¹¹ Cf. *The Annual Report of the Board of Governors of the Federal Reserve System*, 1943, pp. 34-37.

state member banks to give up their membership in the Federal Reserve System, and national banks to relinquish their charters. The Board, however, is unwilling to resort to such measures and would prefer authority to take penalizing action directly against the offending holding company.¹²

The Board of Governors has repeatedly asked for remedial legislation to improve the control over holding company banking. In particular, it has proposed that bank holding company operations be placed under the same regulation as are the operations of banks themselves. In addition, it has proposed that nonbanking affiliates be divorced from holding companies involved in banking; that the term *holding company affiliate* be redefined to meet the needs for adequate control; and that power be granted to exercise control over the further extension of holding company banking.¹³

The Board made a more direct attack on the extension of holding company control over banks when it required, as a condition of membership in the Federal Reserve System, that no part of the stock of the bank requesting membership should be acquired by the Transamerica Corporation without the written consent of the Board.¹⁴ Another attack by the Board took the form of requiring the Transamerica Corporation, in 1948-1949, to appear before it to answer charges of violating the provision of the Clayton Anti-trust Act, which prohibits holding companies that tend to restrain competition or create monopolies.

Separation of security companies from member banks. Security company affiliates of commercial banks were severely criticized for their activities preceding the stock market crash of 1929. They borrowed at the affiliated bank to obtain funds to carry speculative securities. Their close tie-up with the bank was a temptation to load the portfolios of the banks with unsaleable securities, to sell securities to the trust department for investment of trust funds, and to give biased investment advice to customers.

The act of 1933 required all member banks to sever their relations with security companies within one year. Furthermore, it made it unlawful for any firm engaged in the business of issuing,

¹² *Ibid.*

¹³ Cf. "Proposed Legislation Regarding Bank Holding Companies," *Federal Reserve Bulletin*, March 1950, pp. 279-291.

¹⁴ See the *Federal Reserve Bulletin*, December 1944, pp. 1182-1187, for an account of the suit brought by the Peoples Bank of Lakewood, California to have the condition set aside.

underwriting, or distributing securities to receive deposits. This provision expressly does not apply to banks dealing in securities as permitted by law. As later amended, the law now prohibits interlocking officers, employees, or directors between member banks and security companies, except in limited cases where the Board of Governors grants a permit in the belief that the bank's investment policies and advice to customers will not be unduly influenced.

Separation of bank stock from stock of other corporations. Effective August 23, 1935, certificates of stock of member banks may not bear any statement representing the stock of any other corporation except that of another member bank or a corporation holding the bank premises on June 16, 1934. Furthermore, the sale of stock in member banks cannot be conditioned upon the sale or ownership of stock in corporations other than member banks and those holding bank premises. This does not, however, prohibit the sale of stock of other corporations on the condition of ownership or sale of stock in member banks.

Regulation of interlocking directorates. The Clayton Act provides that no private banker, director, officer, or employee of any member bank shall at the same time be a director, officer, or employee of any other bank, state or national, except that: (1) the Board of Governors may grant a permit in the case of one other bank; and (2) restrictions do not apply to banks 90 per cent of whose stock is owned by the United States, banks in liquidation, foreign banking corporations, banks 50 per cent of whose stock is owned by the stockholders of another member bank, banks not located in the same town or city (or a contiguous one), and banks not engaged in the same class of business. This regulation, although not affecting interlocking directorates between nonmember banks, would seem to prevent interlocking directorates involving member banks of the same city unless the banks concerned are controlled by the same stockholders. This rule will prevent many such chains as have heretofore appeared in the larger cities.

Questions for Study

1. Explain why banks have expanded in size through mergers. What change has occurred in the relative size of earnings on invested capital of big and small banks?

2. What are the main characteristics of each of the following methods of concentrating banking control: (a) Trusteeing of stock. (b) Holding company or group banking. (c) Chain banking. (d) Branch banking.
3. Why is holding company banking sometimes superior to chain banking?
4. In what ways is trade-area branch banking likely to be superior to holding company or group banking, chain banking, and our present type of branch banking?
5. What are some of the problems of regulation of group banking? Why is the abolition of nonbanking affiliates advisable? Why does the present holding company *voting permit* fail to work satisfactorily?

The Banking and Credit System: An Evaluation

Now that we have examined the structure and operation of our monetary and banking system and some of the many problems related to it, it is appropriate that we review the broad picture and try to evaluate the degree to which the requirements of a modern economic society have been met.

The functions of the commercial banking system. Because banks, including central banks, provide the working mechanism of our monetary system, we may properly direct our attention primarily to the functioning of the commercial banking system. A first step in any evaluation of the success or failure of an institution necessarily involves an enumeration of its basic functions and responsibilities. In a modern society, the duties of a banking system may be said to be:

1. Provision of a sound, effective supply of deposit and note currency as the media of exchange.
2. Provision of a currency with adequate elasticity to match the changing seasonal and irregular needs while at the same time avoiding the evils of cyclical perversity.
3. Adequate response to monetary management directed at achieving economic stabilization and full employment.
4. Provision of credit and loan facilities necessary to meet the social aims of society. This involves encouragement of private enterprise through assistance to small businessmen and to agriculture.
5. Provision of sufficient loan competition both locally and throughout the country to insure availability of credit on reasonable and nonmonopolistic terms.

Some of these responsibilities have been met effectively, but others have not. It seems inevitable that, sooner or later, faulty

functioning will lead to some changes and reforms of the money and banking system. These changes may involve modifications of methods and practices within the existing framework, emergence of new institutions, or expansion of the role of government in the field of credit. These changes may be benign or dangerous. They may successfully meet the problem, or they may fail. Nevertheless, changes must be expected. It is well, therefore, to survey the effectiveness of our present system in meeting the problems with which it is confronted.

THE SOUNDNESS AND EFFECTIVENESS OF THE MONEY SUPPLY

Soundness of our money. Only a sound, acceptable, and reliable money can perform its function effectively. What is a sound money is a source of much confusion in the popular mind. Many persons profess to believe that soundness is dependent upon the domestic convertibility into gold, preferably gold coin. This view, grounded in what is now a rather remote monetary experience with the old gold coin standard, can obviously throw but little light on the present problem. Rather, soundness of a country's money depends on (1) the avoidance of embarrassing loss of purchasing power from overissue; and (2) the certainty that holders of any particular form of money (demand deposits for example) will always be able to exchange it freely for other forms of money in common use. Fulfillment of the first requirement for soundness involves protection against excessive supply of the standard money base, including gold and government paper money issues, and the careful avoidance through prudent central bank credit policy of overexpansion of commercial bank credit on the basis of available reserves. The second test of soundness, ability to convert any form of money into any other form, depends primarily upon the soundness (*i.e.*, solvency) of individual banks.

Soundness; stable buying power. It is not too hard to understand the confidence, unwarranted under present-day conditions, that some continue to have in the salutary influence of gold convertibility as a means for imposing scarcity and hence "soundness" on the money system. But present-day money can hardly be said to depend upon its convertibility into gold for the maintenance of its value. Rather, the value of money depends upon a complex of forces including the level of production and the current credit and fiscal policy. Fortunately, we came through World War II

with a currency that is essentially sound, even though it lost some purchasing power through inflation. So long as the governmental fiscal policy involves avoidance of excessive deficit financing, that soundness seems likely to be maintained.

Soundness; safety of deposits. Our experience with bank failures during the 1920-1933 period caused grave doubts as to the soundness of our bank deposit money. Indeed, such a collapse points to basic weaknesses that should not be tolerated. Therefore, the question must be faced as to the effectiveness of measures taken since 1933 to strengthen the individual bank and increase its power to survive. The most obvious measure taken was introduction of Federal Deposit Insurance. Without question, this insurance has helped to improve banking solvency both by strengthening the supervision over nonmember banks and by assuring the small depositor (having deposits of under \$5,000) that he need not draw out his money at the first rumor of impending catastrophe. Clearly, both of these results are of some benefit and in the right direction. But one needs only to recall the sorry performance of national and state member banks during the collapse of the 1930's to realize that the examination powers of the Federal Deposit Insurance Corporation over nonmember banks can be but a modest step in the direction of the promotion of solvency of the banking system. Moreover, the protection afforded the small depositors by deposit insurance, although highly desirable so far as it goes and of real advantage to the small banks, provides no assurance against rapid and destructive withdrawals of funds by large depositors who get no adequate insurance protection. In the interest of soundness of bank deposits, therefore, it would appear advisable to extend the insurance coverage to a full 100 per cent. Such a provision in the law, backed by additional assurance of governmental support for the FDIC in case of emergency, would contribute substantially to the security of the deposit structure.

Useful as an extension of insurance coverage would be, it is desirable that serious study be given to the problem of strengthening the fundamental structure of the banking system and improving its inherent stability in the face of economic depression. Those who advocate the 100 per cent reserve plan would adopt a fundamental correction involving a complete removal of the loan functions of banks. We have already examined the objec-

tions to this plan. Its merits, which include making checking accounts sound, seem greatly outweighed by its disadvantages.

Probably the most promising structural modifications for increasing the stability of commercial banks and the soundness of bank deposit currency would be the development of trade-area branch banking systems, capable of cutting across state lines. The superior stability and depression resistance of branch banking was amply demonstrated by the Canadian experience, which contrasted so sharply with our own in the 1929-1933 crisis. The expansion of branch banking on a wide basis would, of course, raise a multitude of objections, some valid and some not. There is, for example, genuine danger that cutthroat tactics might develop as branch systems sought to expand. Moreover, the cry of monopoly in the money market would be raised. This fear of monopoly may reflect both the aversion of the small independent banker to being bought out or overwhelmed by the branch system, and the distrust of size as a threat to competition. Furthermore, although branch banking facilitates a highly desirable geographical dispersion of deposits and loan risks, it does not automatically result in sound bank management and practice. A large branch system as well as the small bank may be badly managed, and with vastly more disastrous consequences. Yet, in spite of these objections and limitations, branch banking, if soundly developed, would seem likely to result in substantial gains in bank stability and soundness.

ELASTICITY OF CURRENCY AND CREDIT

Our banking system is admirably suited to provide the elasticity of currency and credit that is needed to meet the seasonal and irregular requirements of the economic system. This elasticity is assured by the effective operation of the Federal Reserve System, which readily supplies necessary reserves and currency to the commercial banks. The builders of the System succeeded well in their purpose of overcoming the plague of inelasticity. They were not so successful in abolishing what is often called *perverse elasticity*. This term refers to the undoubted tendency for bank credit to expand unduly during business booms, thus contributing to the inflationary process, and to contract when business declines, thus accentuating the depression. In fact, introduction of the Federal Reserve System, with its power to expand and contract

the lending powers of the commercial banks, increased rather than diminished the possibility of perverse elasticity. The ineptness of Federal Reserve policy in trying to cope with the booms of 1919-1920 and 1928-1929, not to mention the hesitant and confused actions in 1947-1948, support the view that to date suitable protection against perverse credit expansion during booms has not been provided. Nor can one derive too much comfort from the fact that this ineptness of central bank policy stems from the fear of precipitating a depression or destroying good times rather than from lack of power to take restrictive action.

Avoidance of perverse credit shrinkage would seem to depend mainly on the successful prevention of excesses on the upswing and the reduction of pressure from deposit losses and bank failures during depression. It seems clear that a large part of the forced credit liquidation so characteristic of severe depressions might be avoided by such structural changes in the banking system as the extension of branch banking on a sound basis. Nevertheless, it is unlikely that perverse contraction of credit can be entirely avoided in a private banking system engaged in short-run lending. The remedy suggested by the advocates of 100 per cent money would extort as its price the abolition of the short-run loan market in order to avoid perverse credit shrinkage of money and credit during depressions. This price is definitely excessive.

MONETARY AND CREDIT MANAGEMENT

A third test of a satisfying banking system is its susceptibility to management in the interest of economic stability and full employment. Our study seems to indicate that the tools of credit policy now available, with some minor modifications, are amply sufficient to provide any necessary credit restriction that may be called for by sound credit policy. On the other hand, the Federal Reserve System can do no more, when seeking to offset depression and to raise the national income, than to expand bank reserves and thus permit and encourage credit expansion. This limitation, of course, is inherent in any banking system, and rather than calling for reform, calls for ready action of a supporting nature through the exercise of proper governmental fiscal policy.

The crying need in monetary and credit management, therefore, is not for radical reforms of the banking structure itself. Rather, what is needed is greater economic wisdom on the part of

the Board of Governors in order that its judgment of economic affairs may be sound, and freedom of the Board from political pressures of an inflationary nature. Only thus can monetary and credit management be successful in resisting inflation. Coupled with this freedom, to counteract depressions of a serious nature, some way must be found to make prompt and effective use of government fiscal policy. Until this is done, monetary management will be seriously handicapped.

MEETING THE CREDIT NEEDS OF A FREE ECONOMY

To what degree does the private commercial banking system provide for the credit needs of private business? The importance of an available and flexible supply of credit was discussed in Chapter 5. The important question is how well do the banks fulfill these needs. It may very well be that the survival of small business enterprises, from which free enterprise and free economic opportunities needed in a private economy so largely spring, may be threatened by inadequate credit facilities. A suspicion that the credit complaints of small business are well founded has led to repeated Congressional inquiries into the question. Should banks and other credit institutions fail to meet this need, changes in private lending practices and institutions must inevitably occur or there will be increased intervention by government agencies in the loan market.

Is adequate credit available on reasonable terms? There is little doubt as to the willingness of private bankers to provide adequately for the credit needs of the larger, more firmly entrenched business firms. The low rates of interest on large customers' loans, and the sharp increase in the volume of loans following the war, give evidence of this. It is not so certain, however, that the credit needs of smaller business are adequately cared for. In any event the cost of smaller loans made to small business is considerably higher than that of large loans. For example, small business loans (\$1,000-\$10,000) made by banks in 19 cities in 1949 cost borrowers 4.62 per cent. At the same time, large loans (\$200,000 or more) cost borrowers but 2.31 per cent. Money borrowed at banks, therefore, cost small business over twice as much in interest charges as it cost large business. Doubtless this added cost resulted in part from the greater cost of administering small loans and the greater risk factor. But it is also likely that part of

the differential between the costs of small and large loans arose from the dependence of the smaller borrower upon the bank with which he regularly deals. In contrast, large borrowers are able to take advantage of the competition among lenders in the central money market. Furthermore, the interest rate differential alone does not reveal the whole disadvantage of small borrowers. First, a substantial part (sometimes estimated as high as one-half) of the so-called *consumer loans*, installment and single payment, made directly to individuals by banks are for financing small business. These loans often bear real interest rates of nearly 12 per cent. Second, many small would-be borrowers get no credit at all from commercial banks because of poor credit standing. The banker, quite properly, considers the making of loans to unsound borrowers outside the scope of his activities. Yet these borrowers need credit accommodation on terms commensurate with the risk.

The small businessman who cannot expect and is not entitled to credit from banks under the existing system has recourse, to be sure, to trade credit and to the finance companies. The finance companies are essentially money-market middlemen who combine their own capital funds with funds borrowed from the commercial banks. In addition to the large volume of consumer retail installment paper that they purchase, these companies regularly advance funds to finance the carrying of inventories, as in the case of automobile dealers and to finance the production and marketing processes of manufacturers. Some purchase or discount the receivables of manufacturers. Credit obtained in this manner comes high, costing all the way from 12 to 18 per cent per year, and sometimes more. So long as small businessmen are in competition only with others of their own size and risk classification, their position is not so intolerable. But when they find themselves compelled to compete with large firms that are able to obtain credit at less than 3 per cent, the differential begins to be appalling. The small businessman is subject to yet another handicap in comparison to his large firm competitor. Like the farmer, he has little if any access to the long-term capital market, since he is unable to market either stocks or bonds. Consequently he is mainly dependent for his long-term capital upon his own slow and painstaking accumulations out of earnings. The banks and finance companies, even when willing to extend short-term credit, are understandably reluctant to extend high-risk, long-term

credit for capital purposes to the small firm. A solution for this is urgently needed. No wonder that the small businessman's credit plight is of widespread concern. It is not enough to dismiss him with the comment that he is not credit-worthy according to conventional banking standards. If he is to be given an opportunity to survive, some method needs to be devised by which his credit handicap can be reduced.

Possible solutions. There are a number of different approaches to the problem of providing small business adequate credit on reasonable terms. First, and least desirable, is the possibility of extending credit through government agencies. Clearly, it lies within the powers of the Federal Government to extend credit to small business to encourage free enterprise. A step was taken in 1934, when Section 13b was added to the Federal Reserve Act authorizing the Federal Reserve Banks to make a limited amount of loans to established industrial or commercial firms unable to obtain credit on reasonable terms. These loans may be for working capital purposes and may extend up to five years. The reserve banks are also permitted to make agreements to purchase such obligations from banks that agree to assume 20 per cent of any loss that may arise. Likewise the Reconstruction Finance Corporation was authorized to make similar industrial loans. Experience, however, has indicated that neither the reserve banks nor the RFC lending activities have made much headway toward solving the long-term credit needs of the small borrower. Moreover, direct government credit to small business sharply conflicts with the ideals of free enterprise. There is always the likelihood that a direct element of subsidy will be invoked in order to reduce the interest rate. Moreover, existing governmental loan agencies are not equipped nor could they become properly equipped to lend to small business without an elaborate development of local agencies. To duplicate credit agencies already in existence is unnecessarily costly. Then there is the danger that government credit agencies will practice favoritism and play politics. Criticism of the loans by the Reconstruction Finance Corporation to promote low-cost housing and the manufacture of low-cost automobiles has not been lacking. In any event, in a society dedicated to the preservation of a substantial degree of free enterprise, it is highly undesirable that the availability of credit to individual businessmen should be determined by the bureaucratic decisions of

government employees. Government credit, therefore, seems hardly the correct solution for the problem of credit for small business.

A second avenue of approach is suggested by our experience in the field of agricultural credit. Here the government has established a co-operative form of credit system, subsidized to some extent by an initial investment of government funds in the capital stock of the institutions established and by the carrying of part of the administrative expenses. This was the approach used in the establishment of the Federal Land Bank System in 1916, the Intermediate Credit Banks in 1923, and the Production Credit System in 1933. The purpose behind these government-sponsored agencies was similar to that behind the present-day demands for a solution of the credit needs of small business. Farmers, being small-scale borrowers with large capital requirements and high risks, found both long- and short-term credit expensive if available at all. These agricultural credit institutions have aimed at and to a large measure succeeded in making it possible for individual farmers to obtain both long- and short-term credit on reasonable terms. This purpose is accomplished by (1) combining the risks through co-operative guarantee by local agencies in which the borrowers have an interest; (2) giving the farmers access to the low money rates available to borrowers in the highly competitive central money markets; and (3) introducing a subsidy in the form of tax exemption to investors who provide the money. The second and third accomplishments just mentioned were achieved by establishing government sponsored Federal Land Banks and Intermediate Credit Banks whose mortgage bonds and debentures are sold in the central money market where rates are relatively low. They enjoy the further advantage of being free from Federal, state, and local taxation. In this way, the cost of funds loaned to farmers has been reduced to a minimum. The farm credit system introduced a further improvement when it provided for the amortization of long-term loans and budget study of farmers' short-term credit needs with adjustments of credit to fit these needs. So successful have these practices proved that they have caused private lenders to adopt similar methods. It is obvious that some counterpart of the agricultural credit system might be established to meet the needs of small business. In this case, such agencies might perform great service by enabling the small

business to profit from a co-operative pooling of risk and getting access to the lower interest rates of central money markets. It might also assist the small businessman to work out the budgets so badly needed to help him become credit-worthy. The importance of missionary work among the small business applicants for loans is shown by the experience of the Federal Reserve Bank of New York in making industrial loans. It found that it was often necessary to assist the applicant to set up suitable accounts in order that his true position could be discovered.¹

Finally, steps may be taken to introduce some form of mutual insurance system whereby risks of small business loans may be combined and reduced. A number of proposals have been made. One would establish a system of loan guarantee or insurance by the Federal Reserve Banks or by some other agency created for the purpose. This would be substituted for the existing power of the reserve banks and the RFC to make industrial loans. A second plan would have the Federal Reserve Banks or some other lending agency arrange to take 90 per cent of a loan to small business provided that a local bank would hold the remaining 10 per cent and service the loan. The first proposal, to institute some type of insurance, might best be patterned after the plan of the FHA Title I insurance under which, on the payment of a given premium, the insuring agency insures the lender against losses up to 10 per cent of the volume of the total group of insured loans. This would have the merit of protecting the lending bank against normal losses, since a loss rate of 10 per cent on any group of small loans would be highly improbable. At the same time, it imposes reasonable caution on the banker and prevents his straying too far from the path of sound credit practice. It would also have the merit of lowering the risk cost to a tolerable figure, one covered by the insurance premium, by combining a large number of risks over a wide area. Such a proposal, however, lacks the advantages characteristic of the agricultural credit system, of tapping central money markets for funds for small borrowers and of tax exemption. The second proposal, that the Federal Reserve Banks (or other financial agencies) might participate in loans made and serviced by the local bank, seems to offer little in the way of reduc-

¹ See Robert V. Rosa, "Some Small Business Problems Indicated by the Industrial Loan Experience of the Federal Reserve Bank of New York," *The Journal of Finance*, April 1947.

tion of risk. The merit, if any, of this plan is that it might help to lower interest costs by tapping the cheaper sources of funds. Probably nothing short of new institutions patterned after those of the agricultural credit system can provide the maximum benefits derived from combining risk reduction with access to the central money market.

PROVISION OF CREDIT TO IMPLEMENT PUBLIC POLICY

It seems entirely possible that moderate modifications of the banking system might give genuine relief to the small businessman, but there remain certain needs for credit that cannot be met by private banking alone. For example, if public policy requires that the movement toward rural electrification be encouraged by low-interest loans not available in the private market, a case can be made for government loans or guarantees. Likewise, numerous examples have arisen, particularly in the 1930's, when a combination of drought and depression have created the need for rehabilitation loans that private lenders cannot be expected to make. There must exist, therefore, a limited amount of government lending to assist in carrying out established public policy. But so long as public policy favors the maintenance of private enterprise, the financing of private business should be carried out by private rather than public loan agencies.

COMPETITION AMONG BANKS

We are already familiar with the efforts made by banks, and supported by legislation, to minimize competition for deposits. Viewed from the depositors' standpoint, it is clear that vigorous competition among banks is nonexistent. Does this absence of competition extend into the loan market? To a certain degree the answer is yes. Local borrowers, especially small ones, are firmly tied to their local banks, and though not invariably, are seldom able to shop around for better loan terms. There seems to be little opportunity to overcome this handicap of the small borrower. Perhaps the most fruitful change that could be made to widen the scope of competition for loans to small borrowers situated in remote areas would be the extension of branch banking. This measure would at least provide a channel through which the abundant loan funds of the big cities might be made available in country areas.

PRIVATE VS. GOVERNMENT OWNERSHIP OF COMMERCIAL BANKS

So long as we continue to maintain our private enterprise system, it is highly important that the major credit institutions should be under private control. This need arises from the fact that the aims of public as contrasted with private ownership are not identical, and are not subject to identical standards. Considerations of public welfare loom large in the determination of public action. Consequently, private enterprise would find it intolerable to be exposed to the hazards of having its loan applications judged in the light of public welfare rather than by well-established and understood business standards. Consequently, although the over-all framework of regulations within which private banking operates need not prevent its proper functioning, it is highly desirable that the application of these regulations to the requests for loans be left in private hands.

In contrast, there is little if any need for the private ownership of the central bank. Indeed, because central banking functions involve control over the volume of currency and credit, essentially governmental functions, government ownership of central banks is natural and appropriate. Regardless of whether ownership of the central bank is vested in government or in private hands, control over its policies must necessarily rest with some agency of the government.

PARTICIPATION OF GOVERNMENT CREDIT AGENCIES

In the over-all picture there has been some tendency toward increasing participation of government owned and sponsored credit agencies. The magnitude and significance of this participation may best be appreciated by a study of Table 49.

The total amount of government funds loaned by the various government agencies was \$5.5 billion. Of this total, \$1.1 billion represented price support loans by the Commodity Credit Corporation and therefore should not be considered as genuine credit extension. When the CCC loans are deducted the direct loans by government credit agencies amounted to \$4.4 billion. Out of this \$4.4 billion, a substantial fraction of the loans was in reality not loans to private enterprise in the ordinary sense. Rather, it was loans extended in order to promote some publicly desired project such as rural electrification (\$1.1 billion), farm relief and

assistance (\$.253 billion), home owners' relief (\$.317 billion), and public housing (\$.293 billion). Altogether, almost two billion dollars of the \$4.4 billion were extended for the promotion of some special public purpose. Consequently, not over \$2.4 billion in loans by government agencies were directly designed to finance private industry.

TABLE 49

INTERVENTION OF GOVERNMENT AGENCIES IN THE LOAN MARKET

Domestic Credit Extended by Federal Agencies (June 30, 1949)
(In millions)

Agricultural credit	
Bank for co-operatives	\$ 244
Federal intermediate credit banks	576
Federal Farm Mortg. Corp.	62
Rural electrification	1,152
Commodity Credit Corp.	1,123
Farmers Home Administration	253
Housing	
Federal Home Loan banks	363
Home Owners' Loan Corp.	317
Public Housing Administration	293
Federal Housing Administration	20
Federal National Mortg. Ass'n.	464
Reconstruction Finance Corp.	711
<hr/>	
Total outstanding credit	\$5,578
Outstanding Liability Through Guarantees and Insurance	
December 31, 1948 (In millions)	
Federal Housing Administration insured mortgages	\$7,276
Veterans Administration	
Housing	7,000
Agricultural aid	160
Industrial aid	125
Commodity Credit Corporation	673
Federal Savings and Loan Insurance Corp.	7,700
<hr/>	

In contrast to the modest character of direct government loans to private industry, the amount of credit guaranteed or insured by Federal agencies looms quite large. The bulk of these guarantees are in the field of housing finance. The only important exceptions were the loans guaranteed by the Veterans Administration for agricultural and industrial purposes. Even these exceptions were of little significance.

An examination of the facts of government participation in the field of credit forces one to conclude that it has not become a very important factor in the American loan market. The largest activity, guaranteeing or insuring housing loans, involves no direct advances of government funds, but instead, is designed to aid home purchasers to borrow at favorable terms from private agencies. The FHA insurance is designed to be self-financing through the collection of annual premiums to cover the risk.

Questions for Study

1. What is the test of a satisfactory commercial banking system?
2. What is a *sound* money and credit system?
3. What appears to be the most promising way to avoid perverse elasticity in our money and credit system?
4. How can monetary and credit management be made more effective?
5. Is credit on reasonable terms to small business a basic requirement for the continued existence of free enterprise? What is the evidence as to the access which small business has to credit?
6. Contrast various proposals for meeting the credit needs of small business in a more satisfactory manner.
7. Government invasion of the field of credit extension is often criticized. In what areas is government credit of significant proportions? Examine Table 49. Note the difference in magnitude of *Guarantees and Insurance* in comparison to *Credit Extended*.

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